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UNIVERSITY OF ALBERTA

NURSES AND RESTRAINT USE IN LONG TERM CARE

BY

PATRICIA A. DONAHUE

©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN

PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF NURSING

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EDMONTON, ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "NURSES AND RESTRAINT USE IN LONG TERM CARE" submitted by PATRICIA A. DONAHUE in partial fulfillment of the requirements for the degree of MASTER OF NURSING.

Dr. Dana Wertenberger, Supervisor

Dr. Anne Neufeld

Dr. Susan McDaniel

Date: 8 July 93

Dedicated to the memory of Sean

whose untimely death resulted in my pursuit of formal studies and

whose memory and unfulfilled goals provided the impetus to succeed.

ABSTRACT

Decisions to restrain are made by nurses and practices persist from fears and assumptions based on misinformation. A partial replication of a survey conducted in the United States (USA) was undertaken to examine nurses' knowledge, practice and attitudes toward restraints. One hundred and forty-one nursing assistants (NAs), personal care aides (PCAs), licenced practical nurses (LPNs) and registered nurses (RNs) from three long term care facilities in western Canada participated. There was lack of agreement as to what constitutes a restraint and many may erroneously believe they are using alternatives in practice. Mean knowledge score was 10 correct responses to 18 items. Knowledge was associated with level of nursing practice, education, and year it was completed, with LPNs being most informed. PCAs had the most positive attitudes, but in practice, RNs were less dependent on restraints and more likely to consider alternatives. Knowledge and attitudes toward restraints were not related. NAs and PCAs were more threatened by potential for resident injury if restraints were not used. They also feared possible personal ramifications subsequent to resident injuries, displayed a greater sense of responsibility to keep residents "safe", and were less likely to advocate for residents if restraints were considered unnecessary. Nurses in the USA were more knowledgeable about restraints and likely to question their use, whereas those in Canada had a more positive attitude and indicated a greater willingness to try alternatives. Restraints were perceived to enhance safety and nurses need to be better informed of alternatives, the risks, and legal issues associated with restraint use.

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CHAPTER I

INTRODUCTION

It is well known that in western society the proportion of the population living to older age is steadily increasing. Costs associated with institutionalization and the desire of seniors to remain at home has resulted in increasing attention and resources directed to the provision of services in the community for those who develop chronic, debilitating conditions. However, if family and support services provided in the home become inadequate to maintain independence in the community, seniors have little option but to reside in long term care facilities for the last years of life.

Historically, society has had ambivalent feelings about long term care facilities. Negative images resulting from past publicity of incidences of substandard care are difficult to erase, yet such facilities are recognized as necessary (Baum, 1977; Collopy, Boyle & Jennings, 1991). Although considerable change has occurred, perceived restrictions on personal freedom, privacy, and choice continue to cause concern for potential residents and family members in a culture which traditionally places a high value on independence and autonomy.

It is generally accepted that the goal of care in long term care is to preserve the integrity of the person and to enhance or maintain functional status and quality of life (Government of the Province of Alberta, 1988; National Citizens' Coalition for Nursing Home Reform, 1985). The majority of staff employed in long term care facilities are nursing personnel and it is these nurses who have the greatest contact with the residents. It is therefore intuitively logical to believe that nurses can make the greatest difference to the residents' lives. However, it is nurses who commonly make the decision to use restraints to control behaviour or to enhance resident safety and reduce fall rates irrespective of the well documented undesirable physiological and psychosocial effects of restricting movement (Burton, German, Rovner & Brant, 1992; Macpherson, Lofgren, Granieri & Myllenbeck, 1990; Mobily & Kelley, 1991; Robbins, Boyko, Lane, Cooper & Jahnigen, 1987; Schilder, 1987; Werner, Cohen-Mansfield, Braun, & Marx, 1989).

The decision to restrain and ensuing practices frequently persist as a result of fears and assumptions based on misinformation (Evans & Strumpf, 1990). Although restraints are seen by many to increase safety, a belief encouraged by the common reference to "safety devices" or "protective devices", their efficacy as a safety measure has never been demonstrated. Residents judged to be at high risk for falling and who

are restrained continue to fall and experience serious injuries (Tinetti, Liu, & Ginter, 1992).

There is a paucity of published research specific to restraint use in long term care. Most of the research has been conducted in acute care settings in the United States (USA) and has focused on prevalence of use and predisposing characteristics of patients at risk for being restrained (Berland, B., Wachtel, T.J., Kiel, D.P., O'Sullivan, P.S., & Phillips, E. 1990; Frengley & Mion, 1986; Lofgren, Macpherson, Granieri, Myllenbeck & Sprafka, 1989; Mion, Frengley, Jakovcic, & Marino, 1989; Robbins et al., 1987). Not until recently have researchers begun to focus on restraints as they relate to nurses and nursing practice in the USA (Goldman, Torell, Blakeslee & Papougenis, 1991; Schirm, Gray, & Peoples, 1993; Scherer, Janelli, Kanski, Neary & Morth, 1991; Schnelle, Simmons & Ory, 1992; Stilwell, 1991; Strumpf & Evans, 1988; Tinetti, Liu, Marottoli, & Ginter, 1991; Varone, Tappen, Dixon-Antonio, Gonzales & Glussman, 1992). However, the populations, culture and health care systems of the USA and Canada are not homogeneous. In addition, the need for an increase in this knowledge base is of particular importance in Canada where restraint use is not legislated and the movement to reduce their use is still in its infancy.

Long standing nursing practices are not readily subject to change. Without knowledge of factors which impact on caregivers in their use of restraints it is not possible to promote the concept of alternatives, and change in practice becomes difficult. Therefore, the purpose of this study was to describe nursing staff's attitudes, knowledge, and current practice in the use of restraints in selected long term care facilities in a western Canadian city and nearby rural community. It was a partial replication of a study reported by Janelli, Kanski, Scherer and Neary (1992). The study also sought to determine if differences existed in nurses' knowledge, attitudes and practice in using restraints in relation to their level of nursing practice, age, shift worked, restraint related education, and previous experience with the elderly or with family members in long term care facilities. The specific questions addressed were: What are the attitudes, knowledge and practice of nursing staff in selected long term care facilities, as related to the use of restraints? and, Is there any association between nursing staff's knowledge, practice and attitudes related to restraint use and selected demographic characteristics of the nursing population?

For the purpose of the study, the following definitions were used. *Nursing staff* included any employee in the nursing department assigned to a unit and who manages, provides or assists with residents' personal care and activities of daily living. Included were nursing attendants (NA), personal care aides (PCA), licenced practical nurses

(LPN) and registered nurses (RN). *Restraint* was defined as a device or garment used to restrict movement of a resident in a chair or bed (Scherer et al., 1991). *Long term care facility* was an on site setting in which 24 hour nursing care is provided for individuals with chronic or debilitating conditions, and who normally reside in the setting for extended lengths of time and may not plan to return to the community.

The conduct and findings of the study are presented in four papers intended for differing readerships: (a) The Definition of a Restraint, (b) Nurses' Knowledge of Restraints, (c) Nurses' Attitudes toward Restraints, and (d) Nurses' Practice in the Use of Restraints. A summary of the study is provided in the final chapter. A literature review and details of the methodology are included in the Appendices.

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CHAPTER II

THE DEFINITION OF *RESTRAINT*

Staff in long term care facilities are challenged to meet residents' needs for a *home* as well as for personal care. However, it is estimated that the widespread use of restraint reduces the quality of life for 500,000 residents in the United States every year (Strumpf, Evans & Schwartz, 1990), as well as an unknown but suspected proportionate number in Canada. The prevalence of physical restraints, resident characteristics associated with restraint use, physical and psychosocial consequences, alternatives, and other related topics are increasingly the focus of attention. In addition, Collopy, Boyle and Jennings (1991) discuss the ethics of using restraints and the need to re-think the concept of autonomy as it applies to a population with compromised physical and cognitive abilities. However, to date the topic of what is and what is not a restraint has not been addressed in the literature. Because authors' definitions of physical restraints lack consistency, making comparisons and integrating published findings become difficult. The risk also exists that a lack of consistency in what is perceived to be a restraint may result in institutional policies which do not meet the intended standard of care and may be subject to selective interpretation.

In this research study, *Nurses and Restraint Use in Long Term Care,* nurses' knowledge, practice and attitudes toward restraints were examined using a self-administered questionnaire[1]. A convenience sample of 141 nursing staff from three nursing homes[2] with a total bed capacity of approximately 500 beds and which were part of a single not-for-profit organization was used. Participants ranged in age from 20 to ≥60 years with a mean of 41 years. Most (94%) were female, 38% worked full time and 62% part time (≥ .4 full time equivalents). Of those who identified their level of nursing practice, 30 (21%) were nursing attendants, 59 (42%) personal care aides, 11 (8%) licenced practical nurses, and 37 (26%) registered nurses. They had been nursing from one to ≥ 31 years with an average of 12 years, and in long term care for 9 years.

Study participants were not provided with a definition of a *restraint.* Rather, in order to develop a greater understanding of what nurses in practice consider to be a restraint, they were asked to list all restraints of which they had knowledge. In

---

[1] The *Restraint Study Questionnaire* was used with permission of Y.K. Scherer, State University of New York at Buffalo School of Nursing. See Appendix C.

[2] The term nursing home is used as it is generally understood among the readershipk but they are known as "care centres"

addition, an opportunity was provided for them to make written comments throughout the questionnaire, some of which revealed individual respondents' personal definitions of restraints.

During the data analysis phase of this research, the evident inconsistencies in participants' personal definitions of restraints were judged to influence their responses to many items. This was seen to be an important factor warranting consideration when discussing the research findings. As a result, the decision was made to examine definitions of restraints as seen in recent literature. These definitions are discussed as well as the relevant findings of this research regarding perceptions of study participants[3]. The ambiguity of the term *restraint* is demonstrated as well as the need for the concept to be thoroughly examined in order that it can be more readily understood in practice.

Definitions in the Literature

Definitions of a *restraint* commonly include a general statement describing their function, purpose or action, and may be qualified by a list of devices included or excluded by the author. For example, "Any article, device or garment which interferes with the free movement of a resident and secures him or her to a bed or chair. Siderails on beds were not included." (Janelli, Kanksi, Scherer, & Neary, 1992). These general statements in recent publications describe the restriction of movement imposed by the restraint as being limiting, interfering, preventing, inhibiting, impeding, restricting, and restraining (Bauer & Roedel, 1991; Burton, German, Rovner & Brant, 1992; Conely, & Campbell, 1991; Folmar & Wilson, 1989; Janelli et al., 1992; Morse & McHutchion, 1991; Moss & La Puma, 1991; Powell, Mitchell-Pedersen, Fingerote & Edmund, 1989; Stilwell, 1991; Young & Vucic, 1990). Although these terms would appear to be similar when used in reference to practice, authors have differing perceptions of a restraint. This is suggested by the degree of restriction necessarily imposed by a number of restraining devices, as evidenced by the inherent nature of items included or excluded in their definitions and in the data collected. The inclusion or exclusion of various devices as reported in the literature are discussed as well as participants' perceptions of restraints in this author's research.

---

[3] An exhaustive review of the literature was not included for the purpose of this discussion.

Devices Included and Excluded

There is almost a consensus among authors that trunk restraints, for example Posey® vests and jackets, extremity restraints, such as four-point restraints or wrist and ankle restraints, and mittens are perceived to be restraints. An exception is Tinetti and colleagues (1991; 1992) who, for reasons explained, excluded mitt and ankle restraints when examining fall-related injuries and prevalence, patterns and predictors of restraint use in skilled nursing facilities. However, when other restraining devices are considered, conflicting views are more apparent.

Geriatric chairs. Controversy exists regarding the use of the reclining geriatric chair, commonly referred to as a gerichair. Powell et al. (1989) and Mitchell-Pedersen et al. (1986) excluded gerichairs in their definitions. However, when gerichairs are used with locking trays, many authors view them as restraints (Burton, German, Rovner & Brant, 1992; Morse & McHutchion, 1991; Robbins, Boyko, Lane Cooper & Jahnigen, 1987; Sloane, Papougenis & Blakeslee, 1992; Tinetti et al., 1992; Young & Vucic, 1990). The purpose for which the gerichair is used may be considered. For example, if used to modify behaviour, such as to prevent a resident from standing, gerichairs qualify as restraints for some authors (Moss & La Puma, 1991; Burton et al., 1992). However, if used primarily to elevate a leg, they may be considered a therapeutic intervention (Folman & Wilson, 1989).

Siderails. The reported widespread use of siderails in long term care in North America and the perception that they are a standard of good nursing practice is interesting (Rubenstein, Miller, Postel & Evans, 1983). As a result, they are not included as restraints in some research studies on the basis of institutional policy and practice with elderly patients in the study sites (Robbins et al., 1987), or due to mandatory use at night unless a specific order to the contrary is written by the attending physician (Folman & Wilson, 1989). Siderails were excluded by Janelli et al. (1992), Mitchell-Pedersen et al. (1986) and Powell et al. (1989) but included by Moss & La Puma (1991) and Sloane et al. (1992). A resident's ability to control the siderails is considered by Stilwell (1991) when determining whether or not they are being used as a restraint.

Wheelchairs: It is obvious to those acquainted with long term care facilities that many residents spend much of their time sitting in wheelchairs. However, wheelchairs may be viewed as restraints (Sloane et al., 1992) particularly when used as a mechanism of risk management. Conely and Campbell (1991) consider wheelchairs to be a form of restraint when used routinely for residents capable of ambulating to reduce the risk of falling, rather than for those unable to walk or to prevent fatigue during

transportation over a long distance. In addition, many wheelchairs are equipped with seatbelts. It is recognized that seatbelts may enhance independence and safe mobility, such as when lap belts are used for double above-knee amputees (Powell et al., 1989). However, if the resident is incapable of releasing the belt due to either compromised cognitive or physical function, choice is nonexistent. Further, it has been shown that the opinions of staff and residents differ greatly in regard to the need for lapbelts, with staff more frequently judging them to be necessary for resident safety. (Rowe, Campbell & Laurin, 1991).

Other restraining devices rarely mentioned in the literature but included by some authors are pelvic restraints used in chairs, wheelchair roller bars (Tinetti et al., 1992), and Dutch doors and alarm systems (Weick, 1992).

Criteria for Including/Excluding Restraining Devices

Rather than classifying specific devices as being a restraint, they may be evaluated according to other criteria. For example, Stilwell (1991) considers the purpose for which they are used. She excludes devices used for temporary immobilization, such as seatbelts used during transportation, or casts and splints used for treatment. Also excluded are devices used to maintain body position for those with paralysis, and seclusion rooms or gates which limit movement to a specific area but do not limit bodily movement. However, Stilwell perceives all devices that prevent free movement to be restraints, including those commonly considered to be "protective" devices, and bindings, sheets and other materials, as do some other authors (Robbins et al., 1987; Berland, Wachtel, Kiel, O'Sullivan, & Phillips, 1990). Similarly, Moss and La Puma (1991) consider whether the device is used to modify behaviour. The issue of individual free choice is important for some researchers when judging whether or not a device is a restraint (Morse and McHutchion, 1991). For example, seatbelts may or may not be considered restraints, depending on whether they impact on the residents' autonomy, that is, whether they are capable or incapable of effecting their release.

Tinetti et al. (1991) also consider the purpose for which the device is used. Mitts and ankle restraints were not included in the definition of a restraint as they "typically are used to prevent removal of medical devices rather than to prevent movement" (p. 469). Although the purpose of these devices may be to maintain treatment regimes or to protect tubes, it could be argued that ankle restraints are the ultimate in preventing movement. Bauer and Roedel (1991) classify some devices as restraints but also differentiate between the purpose for which they are used. Depending on the circumstances, that which generally is considered a *restraint* may be perceived to be a

safety device or *positional device*. For example, a gerichair with a tray is considered always to be a restraint and a gerichair with supports is viewed as a positional device. However, a reclined gerichair can be a restraint, safety device or positional device. The rationale behind this discrimination as perceived by Bauer and Roedel is that a restraint prevents deliberate or desired movement, such as attempting to rise. A safety device prevents non-deliberate or unintentional movement. Although both safety and positional devices are deemed to provide support or ensure proper body alignment, the purpose of a positional device is strictly to maintain comfort.

Respondents' Perceptions of Restraints

Of the 141 respondents who participated in this research, 86 (61%) listed the restraints of which they had knowledge (range 1-11; $M = 4.6$), although the devices may not have been in use in their current practice. Responses were tabulated and seven categories of restraints were developed: (1) belts, (2) jackets, (3) chairs, (4) linen, (5) bed siderails, (6) straps and ties, and (7) other. Relevant comments written throughout the questionnaire were used to increase understanding and to facilitate discussion. The items identified as being restraining devices by the 86 participants are shown in Table II-1 as well as the frequency and proportion of respondents to included them.

Belts: Various types of belts were listed 81 times. Included were Posey® belts, seatbelts, safety belts, wheelchair safety belts, lapbelts, bathtub safety belts, roll belts on beds, and transfer belts, with one respondent indicating that the use of a transfer belt for restraining purposes was inappropriate.

Jackets. Included in the 57 responses classified as jackets were Posey® vests, safety vests, back closure restraints, and straight jackets.

Chairs. Chairs with trays and gerichairs were identified 47 times as being a restraint. Two respondents included gerichairs but indicated they were unsure whether they qualified as a restraint, and some specified a gerichair which included a tray.

Linen. The use of linen was included on 24 occasions. Sheets were perceived to be restraints and some respondents provided further explanation of their use. They are seen to have been used as a restraint before the introduction of transfer belts, or if a restraint was not available. They may be tied to a chair, to both sides of the bed to prevent falling, or firmly over the thighs and wrapped around the bedframe. A rolled up blanket and some forms of clothing were also identified as being used for restraining purposes.

Table II-1

Distribution of Frequencies of Restraining Devices and Percentage of Responses by Category of Restraint

Restraining Device	Frequency	% of N (86)
Belts		
wheelchair safety belt	23	26.7
safety belt	14	16.3
seatbelt	13	15.1
Posey® belt	12	14.0
transfer belt	10	11.6
lapbelt	4	4.7
bathtub safety belt	3	3.5
roll belt on bed	2	2.3
Jackets		
Posey® vest	39	45.3
straight jacket	10	11.6
safety vest	7	8.1
back closure restraint	1	1.2
Chairs		
gerichair*	33	38.4
gerichair with tray	8	9.3
chair with tray	6	7.0
Linen		
sheets	22	25.6
blanket	1	1.2
articles of clothing	1	1.2
Straps and ties		
shoulder harness	7	8.1
arm and leg restraints	6	7.0
wrist restraint	4	4.7
mitts	3	3.5
bed restraint or harness	3	3.5
hand restraint	2	2.3
T restraint	1	1.2
leather straps	1	1.2
Y-belt	1	1.2
ties	1	1.2
Siderails	39	45.3
Other	6	7.0

*Two respondents who included gerichairs indicated they were unsure if they qualified as a restraint.

Straps and ties. The 29 responses categorized as straps or ties included limb restraints and others less well known which may be specific to some particular practice but not to the study sites. They were hand restraints, wrist restraints, mitts, arm and leg restraints which included Velcro® to ensure legs remain on leg rests or arms on armrests, shoulder harnesses, leather straps, Y-belts, T restraints to prevent falls from wheelchairs, bed restraints and harnesses, and "ties".

Bed Siderails. A total of 39 respondents (45%) who provided data considered siderails (padded or non-padded) to be a restraint.

Other. Other known ways of restraining residents included the use of casts and pushing the bed against a wall or backing up chairs along the side of the bed. One respondent included wandering devices which activate door alarms.

Discussion

Although some nonresponse bias may exist, respondents collectively identified a wide variety of restraining devices. However, it is emphasized that the restraining measures identified are *those of which they had knowledge and not necessarily what was used in current practice.* Nevertheless, there is a lack of consensus among the study sample regarding their perception of restraints. Generally, interpretation of much of the study data was confounded by a multitude of written comments which revealed differences in individual beliefs regarding what is and is not a restraint. Some respondents chose not to answer some questionnaire items, explaining that the statement(s) were not applicable to their current practice because restraints were not used[4]. For example, "We don't use restraints, only geri-chairs, siderails and seatbelts", or "These questions don't apply as we don't use restraints". In addition, several staff who met the study criteria indicated to the investigator when in the study setting that they didn't believe their facility was an appropriate study site as restraints were not used. This belief is supported by the comment, "These questions are hard to answer if we don't use restraints, therefore it won't give an accurate evaluation". It is suggested that this perception may be attributed to the terminology used in the Personal Care Aide course developed by the local vocational centre. Due to the negative connotation of the term "restraint", the developers of the course state in the course materials that the term *restraint* has been replaced with "protective device" or "safety device". The course content related to these devices also emphasizes residents' safety

[4] Gerichairs, siderails and seatbelts were in use at all study sites at the time of data collection.

needs. However, other factors are involved as RNs also expressed this same sentiment.

A resident's geographic location on the unit may influence staff's perception of whether or not a resident is restrained. This notion is supported by a respondent who indicated that answering items was "hard because we have no residents restrained in their bedrooms". Some respondents expressed a dilemma in selecting a response. "Are seatbelts in this case (when used for disoriented residents in wheelchairs who attempt to walk but are unsteady) true restraints?". In other instances, respondents' confusion regarding the definition of a restraint was observed by the investigator during data analysis. Inconsistencies existed between some individual participants' responses to questionnaire items. For example, written statements that restraints were not used in practice were inconsistent with the same respondents' inclusion of siderails and geri-chairs in their lists of known restraints. Interestingly, none included medications which were more likely viewed as alternatives to restraints.

Conclusion

When considering the inconsistencies in definitions of restraints in the literature and also in the perceptions of respondents in the study sample, it is readily understood why efforts to address the use of restraints in practice is problematic. More importantly, erroneous personal definitions of a restraint can foster the perception within an organization that residents' health and safety needs are being met. As a result, the need for review may not be recognized and the status quo is maintained. Without a clear understanding of the issues involved, evaluation of staff practice and educational needs are difficult. In turn, discussion of acceptable alternatives may be inadequate or limited. More importantly, due to a lack of understanding of the concepts and ethics involved, introduction of restraint reduction programs may be met with widespread resistance and therefore could be judged premature. It is therefore recommended that guidelines be developed based on the philosophy of service long term care facilities profess to offer. This will necessarily challenge the inclination to impose acute care standards in long term care, a practice which fosters hospital-like care in a setting which more appropriately should focus on the promotion or maintenance of functioning in daily living and psychosocial wellbeing. Of particular import will be issues related to cognitively impaired residents, their families, and the role of advocacy. Only through action based on ethical analysis of the complex issues involved can the rights of residents be honored, assured, and take precedence over those of a system which historically has tended to constrain and control.

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CHAPTER III

NURSES' KNOWLEDGE OF RESTRAINTS

The use of physical restraints in long term care facilities continues to be cause for concern regardless of the well documented physical and psychosocial hazards associated with their use (Burton, German, Rovner & Brant, 1992; Marks, 1992). Although there is a greater awareness of the detrimental side effects associated with restraints, as evidenced by an increase in published research (Tinetti, Liu & Ginter, 1992; Burton et al., 1992), long standing practices are resistant to change (Strumpf, Evans, Wagner & Patterson, 1992). Because it is nurses who apply restraints and generally initiate their use (Schilder, 1987; Varone, Tappen, Dixon-Antonio, Gonzales & Glussman, 1992), it is important they be knowledgeable regarding this aspect of their practice. However, little is known of nurses' knowledge about restraints.

When examining nurses' perceptions of physical restraint use in long term care, Schirm, Gray, and Peoples (1993) found a need for nursing assistants to be better informed regarding the risks and threats to independence imposed by restraint use. However, knowledge deficits are not limited to only that nursing population. Stilwell (1988) found that many nurses in practice or employed as nurse educators completed their nursing education prior to 1980, before the advent of research on physical restraints. Education related to restraints may be limited to a brief discussion during orientation to a facility (Stilwell, 1988) or to an annual inservice education program which does not necessarily include evaluation of knowledge gained (Janelli, Kanski, Scherer & Neary, 1992). As Stilwell (1991) also suggests, a lack of knowledge of empirical findings and absence of content in nursing curricula will be reflected in a limited awareness of alternative in practice. Although Janelli et al. judged nurses' knowledge of restraints generally to be favorable, areas of concern identified related to safety in practice.

The assumption is made that individuals use the information they have when making decisions, although it is recognized that discrepancies can exist between measurements of knowledge and subsequent behaviour (Fishbein and Ajzen, 1972; 1975). However, there is little argument in the literature that nursing staff's knowledge about restraints is both important for study and relevant for discussion (Janelli et al, 1992; Stilwell, 1991).

Nurses' knowledge of restraints was examined as part of the study, *Nurses and Restraint Use in Long Term Care*, in which nurses knowledge, attitudes and practice in

restraint use was examined. The larger study, a portion of which is reported here, was a partial replication of a previous study conducted by Janelli et al. (1992) using a self administered *Restraint Study Questionnaire*[1]. The measure of knowledge consisted of 18 items to which respondents could answer true, false or not sure. In addition, an opportunity was provided for participants to make written comments which were used to assist in interpreting responses. Data were collected from a study population of 206 full time and part time (≥ .4 full time equivalents) (FTE) nursing staff employed in one rural and two urban nursing homes in western Canada which were part of a single not-for-profit organization. Included were nursing attendants (NAs), personal care aides (PCAs), licenced practical nurses (LPNs) and registered nurses (RNs)[2]. The majority of nurses completing the questionnaire were female (94%), NAs and PCAs (63%), and worked part-time (62%). Respondents' ages ranged from 20 years to 60 years of age or older with the average age being 41 years. They received their nursing education between the period 1950-1959 to the present. Nurses from the four levels of practice were similar in the number of years working with the elderly or in long term care, shift worked, and in the amount of information about restraints received through reading or inservice education.

Response Rate

An overall response rate of 68.5% (N = 141), ranging from 56% to 81% in the three facilities was obtained. Response rates by level of nursing practice are shown in Table III-1. Although more PCAs participated in the study than nurses from the other levels of nursing practice, they were less well represented as a group. It is suspected that this is related to the diversified ethnic mix of these nurses and the numbers for which English is a second language (ESL).

Knowledge Level

Respondents' total scores of correct responses to the 18 items ranged from 3 to 14, with a mean, median and mode of 10 correct responses (SD = 2.26). A third of the sample (N = 48; 34%) selected from three to nine desired responses out of a total of 18 items. Those with the highest scores were 10 respondents (7%) who selected 14

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[1] Used with permission of Y.K. Scherer, State University of New York at Buffalo School of Nursing. See Appendix C.

[2] The term RN was used to increase anonymity and when used in text or tables may include Registered Psychiatric Nurses. Similarly, no attempt was made to differentiate between RNs prepared at the diploma or baccalaureate levels.

Table III-1

Study Population and Study Sample: Response Rates by Level of Nursing Practice

Level of Practice	Population		Study Sample		Response Rate
	N	%	N	%	%
NA	41	(20%)	30	(21%)	73.2%
PCA	101	(49%)	59	(42%)	58.4%
LPN	15	(7%)	11	(8%)	73.3%
RN	49	(24%)	37	(26%)	75.5%
Unknown			4	(3%)	
Total	206	(100%)	141	(100%)	68.5%

correct responses. Frequencies of distribution of respondents' total scores are shown in Figure III-1.

The majority of respondents believe restraints are designed to prevent injuries, are aware of institutional policies related to requirements for documentation and physicians' orders, and do not believe restraints should replace close supervision. However, as shown in Table III-2, knowledge deficits exist for some items. Less than half of

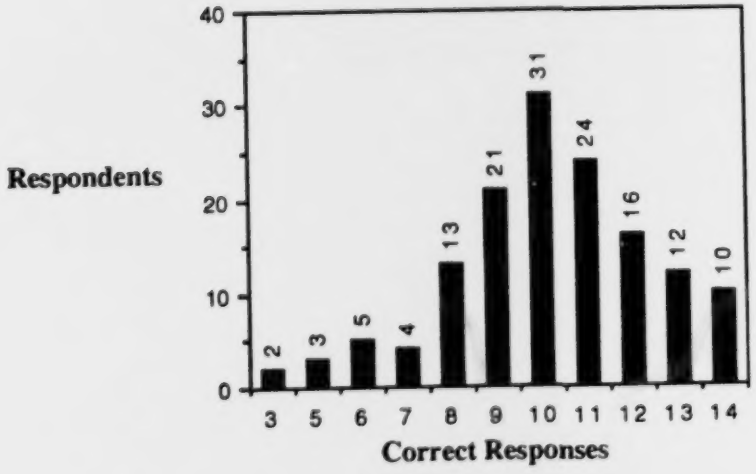

Figure III-1. Respondents' Scores of 18 Knowledge Items

Table III-2

Distribution of Responses to Knowledge Items

Item	N	True	Not sure	False
Physical restraints and safety vests are garments designed to prevent injury	140*	**86.5%****	5.7%	7.1%
A restraint is legal only if it's necessary to protect the resident or others from harm	139	**68.1%**	8.5%	22.0%
Restraints should be used when you cannot watch the resident closely	140	19.9%	7.1%	**72.3%**
Residents are allowed to refuse to be placed in a restraint	138	**63.8%**	14.9%	19.1%
A physical restraint (safety vests, garments) requires a doctor's order	141	**92.2%**	5.7%	2.1%
Confusion and disorientation are the major reasons for using a restraint	141	**36.9%**	5.0%	58.2%
A restraint should be released every 2 hours, if the resident is awake	140	**52.5%**	19.1%	27.7%
Restraints should be put on snugly so that there is no space between the restraint and the resident's skin	141	16.3%	9.9%	**73.8%**
A resident should never be restrained while lying flat in bed because of the danger of choking	140	**57.4%**	15.6%	26.2%
When a resident is restrained, skin can break down or restlessness can increase	141	**85.1%**	3.5%	11.7%
When a resident is restrained in bed, the restraint should **not** be attached to the side rail	141	**72.3%**	17.0%	10.6%
Sheet restraints may be necessary at times	140	41.8%	25.5%	**31.9%**
You can be charged with assault if you apply restraints when they are not needed	138	**72.3%**	19.1%	6.4%
On every shift a record should be kept on residents in restraints	140	**87.2%**	8.5%	3.5%

(con't)

Table III-2 (continued)

Distribution of Responses to Knowledge Items

Item	N	True	Not sure	False
A physician's order to restrain a resident must be specific regarding the purpose, type of restraint used, and length of time it may stay in place	141	**90.1%**	5.7%	4.3%
In an emergency you can legally restrain a resident without a doctor's order	136	**39.0%**	27.7%	29.8%
Good alternatives to restraints do not exist	137	13.5%	24.8%	**58.9**
Deaths have been linked to the use of vest restraints	139	**46.1%**	44.7%	7.8%

*Not all respondents answered each item.
**Percentage of correct responses are in boldface.

respondents are aware that deaths have resulted from the use of vest restraints. If the study sample were to restrain a resident in bed, they would not always be applied in a safe manner which is cause for concern. Fifty-nine of 140 respondents (42%) were either unsure or not aware of the risks associated with restraining residents while lying flat in bed, and 39 (29%) do not know tying restraints to siderails can cause serious injury. Although it is recognized that vest restraints are reportedly not used in the study sites, their application is included in the course content of the Personal Care Aide course offered by the local vocational centre and conducted within the facilities by the staff development coordinators.

The role of residents' right to self determination as well as confusion and disorientation in making decisions to use restraints is not fully understood by many of the nurses. Nor are the legalities regarding the use of restraints in emergency situations widely known. Although some respondents may not have had the requisite knowledge to select the correct response, others may have been confounded by what actually occurs in practice.

Knowledge According to Level of Nursing Practice

There were significant differences among the respondents of the four groups of nursing staff to some of the knowledge items on the questionnaire. Chi square analysis revealed that RNs are more aware that (a) they can be charged with assault if restraints are applied when not needed (p .04), (b) confusion and disorientation are the major reasons for using a restraint (p .04), (c) restraints should not be attached to the siderails (p .02), (d) documentation is required every shift (p .04), and (e) good alternatives exist (p .04). All LPNs were cognizant of the association between vest restraints and the risk of death (p .002). Respondents with an RN education (including 8 currently working as NAs) were more cognizant that restraints cause skin breakdown and restlessness (p .03).

Mean Knowledge Scores and Sample Characteristics

Mean knowledge scores were similar among respondents regardless of the number of years they had worked in nursing, in long term care or with the elderly. Knowledge scores were also not related to history of a family member living in a nursing home or being restrained, nor to shift worked or to full-time or part-time employment. However, significant differences were demonstrated for age, level of nursing practice, highest level of nursing education and year in which it was completed.

The LPNs as a group scored highest with a mean score of 11.5 correct responses to the 18 items, followed by the RNs with a mean of 10.9 correct responses. NAs and PCAs both had mean scores of 9.6. Analysis of variance revealed a significant difference (p .004) between the knowledge of nurses with a registered nurse background and LPNs as compared to the PCAs. Staff between ages 50-59 years scored significantly higher (p .03) with a mean of 11.1 correct responses, than those 30-39 years of age (mean = 9.3). Similarly, those who obtained their education from 1960-1969 scored higher than those who receiving their education since 1980 (p .01). However, these differences are judged to be related to level of nursing practice, as RNs in the sample were significantly older (M = 52 years) than the other nursing staff (p. 006) and most obtained their nursing education between 1960-1969.

Sources of Knowledge about Restraints

Potential sources of knowledge about restraints other than that obtained through formal nursing education included reading and inservice education programs. Although no significant differences were shown, fewer RNs (N = 4; 11%) reported attending an inservice on restraints in the past year as compared with 34% (N = 34) of other

participants. The staff development coordinators from the three study sites did not recall any formal education on restraints being offered within memory. Rather, occasional teaching occurs on the units when there is a need to address a specific care issue which usually involves the non-professional nursing staff. However, NAs and PCAs may perceive the PCA course content on "safety devices" to be "inservice education" or an opportunity provided by the employer to learn about restraints. Furthermore, 60 of 142 NAs and PCAs who met the criteria to participate in the study either had completed the PCA course in the preceding 12 months or were in the process. Perhaps for the same reason, significantly more RNs (92%) reported no requirement to attend a program whereas 43% of NAs and PCAs either believed a program was mandatory or were not sure (p .003). However, because it is known that some NAs and PCAs also work in other long term care facilities, their responses may not be based soley on their perception of educational opportunities available at the study sites.

Knowledge of Full-time and Part-time Respondents

Because only about one third of all nursing staff were employed full-time, a factor which might be seen by some to be undesirable, analysis was conducted to look for differences between the full time and part time staff. Many responses for both groups were similar. However, 76% of part-time staff were aware that restraints are legal only to protect residents or others from harm as compared to 58% of full-time staff (p .03). Although the majority of both full-time and part-time staff (65%) indicated that residents' can refuse to be placed in restraints, significantly more full-time staff (25%) do not believe this statement to be true (p .03). Full time staff were less aware of the risks associated with tying restraints to siderails (p .009) and believe sheet restraints are necessary at times (p .05). Fewer full time staff believe good alternatives exist (41%) as compared to part time staff (73%) (p .001).

The significance of these items may be related to factors other than full-time or part-time work status. As shown in Table III-3, a significantly larger proportion of PCAs worked full-time than did other levels of nursing staff (p .005), and significant differences for some of the same items existed for level of nursing practice. PCAs as a group were disinclined to believe that good alternatives exist (N=32; 56%) and only 61% (N=36) knew that restraints should not be tied to siderails. Therefore, it is suggested that knowledge of some aspects of restraints is not necessarily associated with time spent in the workplace.

Comparisons of Study Sample with USA Sample

When total correct knowledge scores of the study sample were compared with those of the USA study, the USA sample appeared to be better informed about restraints. A comparison of scores is shown in Table III-4. The knowledge level of

Table III-3

Staff Position by Level of Practice

Position	NA	PCA	LPN	RN	Total
Full-time	5 (17.2%)	31 (53.4%)[1]	5 (45.5%)	10 (27.8%)[2]	51 (38.1)
Part-time	24 (82.8%)	27 (46.6%)	6 (54.5%)	26 (72.2)%)	83 (61.9%)
Total	29 (21.6%)[3]	58 (43.3%)	11 (8.2%)	36 (26.9)%	134[4] (100%)

[1] p .005

[2] 5 RNs who met the criteria for inclusion in the study and worked full-time were unit supervisors.

[3] Includes 11 PCAs, 3 LPNs and 8 RNs working as NAs.

[4] 7 missing observations

Table III-4

Comparison of the Distribution of Total Knowled ,e Scores for Study Group and USA Study

Score[a]	Number		Percent	
	Current Study	USA[b]	Current Study	USA
3-5	5	0	3.6	0.0
6-8	22	4	15.6	3.4
9-11	76	14	53.9	11.8
12-14	38	67	26.9	56.9
15-17	0	33	0.0	27.9
Total	141	118	100.0	100.0

[a]Maximum score is 18

[b]Data from "Physical restraints: Practice, attitudes and knowledge among nursing staff" by Janelli et al., 1992, *Journal of Long-Term Care Administration, 20* (2), p. 24.

the nurses in the USA study could be attributed to the reported higher incidence of inservice education on restraints. The majority (73%) of nurses in the USA study acknowledged attending an inservice program on restraints within the past year, as compared to only 28% of the present study group. It is highly possible that preparing staff for the pending implementation of USA federal regulations in response to OBRA (Omnibus Budget Reconciliation Act, 1987) which severely limits the routine use of restraints would also result in higher knowledge scores. However, the 25% response rate reported by Janelli et al. (1992) could indicate a bias in the sample which could be partially responsible for the differences between the two study groups.

There are no published findings to date of individual knowledge items for the total USA study sample. However, the mean for total correct scores was 13.2 correct responses (Janelli et al., 1992) as compared to a mean of 10.0 for this study group. RNs' knowledge of restraints was significantly higher than that of the LPNs or NAs ($p < .01$) in the USA study, whereas in the current study, analysis of variance demonstrated that both LPNs and RNs were more knowledgeable about restraints than were the PCAs (p .004). It is recognized that the validity of these comparisons may be questioned as the levels of nursing practice in the two research settings may not be comparable and the staffing mix in the samples differed. In the USA study, 32% (N = 38) of the sample were LPNs as compared to 7% (N = 11) in the present study. Therefore, comparisons are made with reservations.

Measuring Knowledge with the *Restraint Study Questionnaire*

Reliability testing was conducted to determine the value of the knowledge items of the *Restraint Study Questionnaire* in measuring nursing staff's knowledge of restraints. A Cronbach alpha coefficient of .48 is strongly suggestive that these items are not a reliable measure of knowledge of restraints. However, to have a high alpha value, a heterogeneous sample is required. With the study sample, one would hope that there would be little variance among responses, that is, it would be desirable if most respondents were knowledgeable about restraints and consistently selected the correct responses. Also, the items cover multiple aspects of *restraints* and their use rather than a single concept which would reduce their reliability as a measure. Although the items may not be statistically strong as a scale for measuring knowledge, they are valuable for the information they elicited as well as for discussion stimulated among users. In addition, reliance on only statistical significance testing in clinical settings as a measure of the importance of research findings is being questioned (LeFort, 1993). It is therefore suggested the tool could be useful in many clinical situations.

Discussion

There is a need for all levels of nursing staff to become more knowledgeable about restraints. The nurses recognize that restraints are designed to increase safety, but they are not aware they are actually associated with continued falling and serious injuries (Tinetti et al., 1992). Their knowledge level regarding safety issues is questionable, particularly among the non-professional nursing staff although safety in application is included in the PCA course content. The majority of nurses participating in this study are not cognizant that restraints are the direct cause of many deaths (Corey, Weakley-Jones, Nichols & Theuer, 1992), most of which occur in nursing homes (Miles & Irvine, 1992). The role of residents' confusion in the initiation of restraints is well documented (Berland et al., 1990; Burton et al., 1992). However, in this study sample, comments indicate that the risk of injury to the resident or others is the major concern, that is, resident behaviours commonly associated with confusion.

The impression that a physician's order is required in emergency situations may come from policy or practice. However, the desire to "be covered", resulting in a false sense of security or protection from undesired consequences could exist, particularly for nurses who have been in practice for many years. The resident's right to refuse restraints, with or without an order, is not recognized by many nurses. However, having a legal right and actually having the ability to exercise that right are entirely different possibilities in real life within an institution when competencies and institutional practices are considered. Although it is desirable that staff be knowledgeable about restraints, a greater need is for knowledge which would increase staff's confidence that effective alternatives exist.

It is obvious that most nursing staff believe the physician is the gatekeeper in regard to restraint use, both in day to day situations and in emergencies. However, responses will have been influenced by what occurs in practice. Some nurses also feel a doctor's order makes restraining "lawful", which insulates them from a potential charge for assault if restraints are used when not needed. This is particularly true for PCAs rather than RNs ($p < .04$); the restraints keep the residents safe "even if they don't want them", and the doctor's order keeps the nurse at the bedside safe. These perceptions, when considered with the residents' and family members' questionable right to refuse restraints, indicate that issues of power and status come into play in the practice setting. Some PCAs perceive themselves to have little control over decisions related to restraint use. And, not only are the various care providers involved in the hierarchical order, but also residents and family members. A most revealing comment was made by a PCA who wrote:

> There are even times when staff dreads calling a doctor for fear of his wrath. It is time to remember we are a service industry or profession, including doctors, Nurses etc. and that we are here to serve, in this case, people who are not capable of looking after themselves and in most cases not even able to stand up for themselves.

Such feelings make one question the status of the resident, and we can only speculate whether she included herself and other non-professional nursing staff as "Nurses" when expressing these sentiments.

Implications

A large number of nurses do not believe good alternatives to restraints exist. They also think that restraints enhance safety by reducing the potential for falling, although research indicates otherwise (Tinetti et al., 1992). The content of the PCA course will also contribute to this thinking. If this mentality is adopted, nurses are likely to believe that low fall rates predicate or are synonymous with good care, which is misguided thinking if it results in greater use of restraints. Those who are responsible for policies aimed at enhancing the quality of residents' lives should be alert to the fact that policies will play a role in staff's perceptions of the utility of restraints. It also should alert them to the need to plan for extensive and comprehensive educational programs, which to be effective should include all staff from all disciplines, board members, physicians, administrative staff and those responsible for inservice education, as well as family members and other residents. However, as Strumpf et al. (1992) found, changing beliefs through education will not necessarily result in long term changes in practice. It requires stable and committed administrative staff, experiential learning, good professional role models, and a move from controlling residents' behaviour to enhancing their quality of life.

Administrators must realize that the social organization within the workplace, formal and informal rules, and the extent that staff feel they have to abide by the rules impact how staff behave regardless of their level of knowledge. Restraint policies which are not specific regarding accountability and which are not supportive of creative solutions to difficult care situation, or which are conducive to individual interpretation do not portray a strong message of institutional support for restraint reduction. Administrators as well as caregivers in long term care facilities in Canada are challenged to act responsibly before legislative controls are deemed necessary for the protection of the rights of those who frequently are not capable of advocating for themselves.

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CHAPTER IV

NURSES' ATTITUDES TOWARD RESTRAINTS

Although many health care workers claim to dislike using physical restraints (Kinsella, 1986; Schwartz, 1985; Yarmesch & Sheafor, 1984), their perceived benefits frequently are seen by many to outweigh any detrimental side effects (Gubrium, 1975; Tinetti, Liu & Ginter, 1992; Varone, Tappen, Dixon-Antonio, Gonzales & Glussman, 1992). Because restraining orders are written "as necessary" (prn), physicians in effect have transferred the decision making and responsibility to nurses, and many nurses readily choose to use restraints rather than implement alternative measures (Robbins, 1986; Schirm, Gray & Peoples, 1993; Varone et al., 1992; Yarmesch & Sheafor, 1984). Although little is known of Canadian nurses and restraint use, nurses in the USA perceive the value and utility of restraints differently from those in Scotland where restraint use is minimal (Evans & Strumpf, 1989a; Strumpf, Evans & Schwartz, 1990). In Scotland and other countries, such as Denmark and Sweden where staff believes restraints are associated with bad practice, facility routines and tasks are secondary to the wellbeing of the resident. However, in the USA, Schilder (1987) found routines took priority, restraints were acceptable, and some nurses seccumbed to pressure from other nurses to apply restraints although they may not have seen them to be necessary.

Early discussion of nurses' feelings about physical restraints commonly occurred in the psychiatric literature. DiFabio (1981) found that restraining a patient was a highly emotional experience for some nurses, as indicated from categories of responses developed from structured interviews with 15 psychiatric nurses following restraining incidents. However, it was suggested that in psychiatric settings, restraining patients is "a fact of life" and because nurses are "caught in the middle", they require the support of each other and should recognize and accept their reactions as normal. Because increasing numbers of residents in long term care facilities have impaired cognition, this attitude, if it continues to exist today, deserves careful consideration.

Although the body of literature on restraint use in long term care is growing, few studies have focused on nurses' attitudes toward restraint usage. Of those reported in the literature, Neary, Kanski, Janelli, Scherer, & Morth (1991) found that nursing aides feel badly when restrained residents become upset but do not perceive good alternatives to exist. Similarly, Strumpf and Evans (1988), report that some nurses

generally view the use of restraints as a caring act although they may have mixed feelings; others describe more negative feelings, such as feeling guilty, like a jailer, or being "driven crazy" by having to restrain patients. It was suggested that believing alternatives do not exist could be a way in which nurses cope with regularly restraining patients, particularly over long periods of time.

Views regarding restraint use may differ according to nursing personnel's position regardless of work environment. When using a regression model to explain how nurses' perceptions of restraints influence their recommendation to use restraints, Schirm et al. (1993) found licenced nurses and nursing assistants (NA) differed significantly in their responses (p .0001). Over half of the explained variance in recommending restraints was attributed to job title. NAs were significantly more hesitant to reduce the use of restraints (p .003) and they believed that restraint reduction jeopardized resident and staff safety (p .001). They also were less cognizant than licensed nurses of the associated risks of dependency (p .001) and disabilities (p .016), and were more likely to view restraints as increasing residents' sense of security (p .04). When compared to licenced nurses, NAs' perceptions had significant influence in the perceived need to restrain residents who are left unattended for toileting (p .009), slide out of chairs (p .001), are frequent fallers (p .001) or remove tubes (p .003). Although it was the NAs who viewed restraints as unavoidable and harmless in practice, licenced nurses and NAs concurred in their views surrounding liability issues and the need for increased staffing for restraint reduction.

Falls are a frequent event in nursing homes and the belief in the efficacy of restraints as a safety measure to prevent injuries is common. A "safety first" mentality can make restraints more palatable for staff as shown by Goldman, Blakeslee, Torell & Papougenis (1991). When measuring staff attitudes on the use and elimination of restraints prior to the introduction of a restraint reduction program, many staff indicated outward discomfort at using restraints. However, at the same time they were not bothered by working in an environment which included their use, considering them to be a necessary safety precaution. Consistent with other findings, they were perceived to prevent falls and injuries, to be for the good of the resident, to make caregiving easier, and to prevent litigation (Varone et al., 1992; Evans & Strumpf, 1989). However, falls with restraints in place are also common, and restraints have not been shown to reduce serious injuries, but actually may be associated with increased risk (Ginter & Mion, 1992; Tinetti et al., 1992).

Despite a lack of empirical evidence to support the efficacy of restraints in increasing resident safety (Tinetti et al., 1992), caregivers commonly justify their use as a protective measure against lawsuits (Johnson, 1990). However, in the USA today, it is considered highly unlikely by those interpreting the impact of recent legislation, that courts will impose liability on facilities complying with the regulatory requirements of the Omnibus Budget Reconciliation Act (OBRA) which limit their use ("Restraint Reduction", 1991). Further, in Canada, no institution has ever been successfully sued for the non-use of restraints (Mitchell-Pedersen, Edmund, Fingerote & Powell, 1986). Rather, the potential for liability for false imprisonment arises when restraints are applied to a patient who objects to their use (Johnson, 1990). Also, the potential for injury resulting from improper application of restraints should not be taken lightly (Corey, Weakely-Jones, Nichols & Theuer, 1992; Katz, 1987; Mitchell-Pedersen et al., 1985; 1986; Schwartz, McJannet, Weinberg & Riley, 1981). There are reports in the literature of deaths directly attributed to restraints and many more are concealed or not reported by nursing home staff for fear of legal ramifications (Miles & Irvine, 1992). Although such practice would never be condoned, the fear is justified, as evidenced by the $39.4 million award to the family of an 84 year old woman who strangled on a vest restraint in a Houston nursing home (Green & Pollock, 1990).

There is a large body of literature on the characteristics and relationships among beliefs, attitudes, opinions and behavioural intentions based on Fishbein and Ajzen's early work (1972; 1975) and subsequent Theory of Reasoned Action. However, for the purpose of this study, attention was not given to their distinctive qualities. The term *attitude* was used in the generic sense to include all of the above dimensions.

Method

The investigation of nurses' attitudes to restraints was a part of a larger study, *Nurses and Restraint Use in Long Term Care*, a partial replication of a previous study conducted by Scherer, Janelli, Kanski, Neary, and Morth (1991). Issues regarding individual rights and perceived effects of using restraints were addressed using survey research methods. A convenience sample was used from two urban and one nearby rural nursing homes[1] which were part of a single not-for-profit organization. The facilities had a total capacity of approximately 500 residents.

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[1] The term nursing home is used as it is generally understood among the readership, but they are known as "care centres".

A total of 206 self administered questionnaires were distributed in the nursing homes to all full time and part-time (≥ .4 full time equivalents) (FTE) nursing staff which included nursing attendants (NAs), personal care aides (PCAs), licenced practical nurses (LPNs) and registered nurses (RNs)[2]. Completed questionnaires were returned by 68.5% of the study population with a range of 56% to 81% in the three facilities. The distribution of eligible nursing staff, study participants, and response rates according to level of nursing practice are shown in Table IV-1.

Table IV-1

Population, Sample, and Response Rates by Level of Nursing Practice

Level of Practice	Study Population		Study Sample		Response Rate
	N	%	N	%	%
NA	41	20	30	21	73.2
PCA	101	49	59	42	58.4
LPN	15	7	11	8	73.3
RN	49	24	37	26	75.5
Unknown			4	3	
Total	206	100	141	100	68.5

Sample Characteristics

Participants were predominantly female (N = 129; 94%) who worked part-time (62%). The majority were PCAs but as a group they were less well represented than the NAs, LPNs and RNs, a factor which could be attributed to their greater numbers for whom English is a second language. The years between which the highest level of education was obtained ranged from 1950 - 1959 to the present (≥ 1990) with PCAs receiving their nursing education more recently. Whereas almost all PCAs (N = 51; 93%) received their nursing education since 1970, the majority of RNs (N = 30; 81%) completed their education before 1970 (p .0000). Respondents' ages ranged from 20 years to ≥60 years with a mean of 41 years, and with RNs being significantly older (*M* = 52 years) (p .01). Likewise, RNs and LPNs had been nursing longer (p. 0003). No significance was shown between level of nursing practice and number of years

[2] The term RN was used to increase anonymity and when used in text or tables may include Registered Psychiatric Nurses (RPN). For the same reason, no attempt was made to differentiate between RNs prepared at the diploma and baccalaureate levels.

working with the elderly or in long term care, shift worked, or exposure to information about restraints received through reading or inservice education. As groups, they also had similar histories of family members residing in nursing homes or being restrained.

Instrument

The attitude component of the *Restraint Study Questionnaire*[3] (Appendix C) was used to measure respondents' attitudes toward restraints. The measure consisted of 11 items to which participants selected a response on a five-point Likert scale ranging from strongly agree to strongly disagree. In addition, an opportunity for respondents to make written comments was provided as well as six additional items developed by the investigator from the literature and following personal communication with Scherer (August, 1991).

The reliability coefficient as measured by Cronbach alpha for the 11 items from the original tool used in this study was .74 as compared to .67 reported in the literature (Scherer et al., 1991). With the inclusion of the additional six items developed by the investigator, the alpha increased to .80. The tool as administered to this study population is judged to be an acceptable measure of the attitudes toward restraints for nursing staff working in long term care. However, further work on the tool is suggested to establish its reliability as a measure of nurses' attitudes toward restraints.

Data Analysis

The SPSS 4.0 for the Macintosh® statistical program was used to conduct the analysis of the 141 completed questionnaires. Missing data were excluded. The overall frequency distribution of responses was examined and differences in responses between levels of nursing staff were explored using chi-square analysis. The mean score for the 17 attitude items was computed and significant differences for the four groups of nursing staff and for other demographic characteristics of the sample were identified using oneway analysis of variance (ANOVA). Where significant differences existed, Student-Newman-Keuls (SNK) multiple comparison test was used to determine where the differences were located. Relationships between variables were explored using Pearson product moment correlations, and a factor analysis of all items was also conducted to identify variables which were interrelated for this study group. To facilitate discussion and to compare the findings with the USA study, the data were collapsed into 3 categories, agree, not sure and disagree, and chi square analysis was

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[3] Used with permission of Y.K. Scherer, State University of New York at Buffalo School of Nursing.

conducted to look for differences between the two study groups. Data from the additional six items included by the investigator in the present study were used, together with the written comments, to augment and clarify responses to items from the original questionnaire.

Findings

The distribution of responses to all items are shown in Table IV-2 and Table IV-3. Results of the investigator's items as shown in Table IV-3 are incorporated into the appropriate discussion, and quotes from written comments are provided throughout. Findings are presented as they relate to (a) collaboration in the decision to restrain residents, (b) nurses' intrinsic responses to restraint use, (c) caring and concern for residents, (d) safety concerns, and (e) legal liability.

As shown in Table IV-4, no significant difference in total attitude scores for respondents according to level of nursing practice was demonstrated. Nor were there significant differences in attitude scores for respondents' age, shift worked, nursing education or year in which it was obtained, years worked in nursing, long term care, or with the elderly. The only characteristic of significance for level of nursing practice was full-time or part-time work status, with the full-time respondents showing a more positive overall attitude toward restraints (p .02). However, this could be attributed to the greater number of PCAs working full-time (p .005) and whose overall attitude scores indicate they also had the most positive attitude about restraints.

Collaboration in the Decision to Restrain

Family rights: Although the majority of respondents believe family members can refuse the use of restraints, the perceived right does not always exist. As respondents stated, "In some cases they do. In others they don't", and "Family first should carefully consider the health and welfare of the patient". Or, the right of refusal is conditional on the willingness of family to spend more time with the resident when aggressive or at risk of harming self or others. However, some respondents believe the decision is primarily a staffing responsibility and then "is explained to the family why the decision was reached". Staff may perceive themselves as having greater skill and knowledge in determining what is appropriate care. "Family may not understand why a restraint is necessary or (may not) believe their elderly member needs one or that they have become aggressive".

Table IV-2

Distribution of Responses to Attitude Items[4]

Statement	N	Percent		
		Agree	Not Sure	Disagree
I feel that family members have the right to refuse the use of restraints	139*	68%	11%	21%
I feel nursing staff have the right to refuse to place residents in restraints	139	57%	19%	24%
If I were the resident, I feel I should have the right to refuse/resist when restraints are placed on me	138	77%	9%	14%
I believe that restraints are a form of punishing residents	139	9%	6%	85%
I feel that the main reason restraints are used is that the nursing home is short staffed	139	20%	9%	71%
I feel embarrassed when the family enters the room of a resident who is restrained	137	34%	10%	55%
The nursing home is legally responsible to use restraints to keep the resident safe even if it means that the resident loses dignity	137	45%	22%	33%
It makes me feel badly if the resident gets more upset after restraints are applied	140	88%	4%	8%
I feel it is important to let the resident in restraints know that I care about him/her	141	96%	1%	3%
It seems that residents become more confused after the restraint has been applied	140	45%	24%	31%
In general, I feel comfortable taking care of a restrained resident	138	49%	17%	34%

*Not all respondents answered all items

[4] The additional items included by the investigator are shown separately in Table IV-3.

Table IV-3

Distribution of Responses to Investigator's Attitude Items

Statement	N	Percent		
		Agree	Not Sure	Disagree
I feel it is rarely necessary to restrain a resident	132*	60.6	14.4	25.0
I worry that if I don't restrain some residents they will injure themselves if they fall	138	73.2	9.4	17.4
I feel I will be blamed if a resident I am caring for falls	137	35.8	13.1	51.1
I feel there are many other effective ways to manage resident other than using restraints	140	72.9	18.6	8.6
I feel that using restraints is just part of caring for some residents in long term care	137	59.1	11.7	29.2
I feel personally responsible if a resident I am caring for falls	137	51.8	10.2	38.0

*Not all respondents answered all items

Table IV-4

Analysis of Variance on Total Attitude Score by Level of Nursing Practice

Nursing Staff	N	Mean	SD	F Ratio	F Probability
PCA	59	46.0	7.08		
RN	37	45.0	6.59		
LPN	11	43.9	6.06		
NA	30	43.5	5.88		
				1.07	.362

Or, the unique role of family as caregiver to an institutionalized family member may not be recognized:

> Since they (family) are not the primary caregivers, they should be made aware of an increased fall risk and that the view of staff should have very much importance also in deciding if restraints are used.

Nursing staff's rights: Although almost a third of the study group are unsure of families' rights or believe family members do not have the right to refuse restraints, they are even less sure of their own right to refuse to place residents in restraints. In particular, significantly more PCAs (N = 29; 50%) than RNs (N = 8; 22%) question their right to refuse to use restraints (p .05). Pearson product moment correlation revealed a moderate relationship between perceptions of staff's right to refuse to use restraints and their belief in the necessity to use restraints (r = .4, P .0000) and efficacy of alternative interventions (r = .4, P .0000). If a decision has been made that a restraint should be used, non-professional nurses are reluctant to challenge it; "Staff should follow the direction of peers", and "If (the resident is) assessed for restraint we can't go ahead and say lets try something else" or, "If I'm told to do it, I can't refuse. I have to do it". A lack of awareness or confidence in the effectiveness of alternatives may be a factor in believing that restraints are the solution.

Residents' rights: More respondents believe in the resident's right to refuse or resist restraints. Of the 107 participants who responded in this manner, more than half (N = 57) agreed strongly that they should have the right to refuse restraints if they were a resident. The perceived right for residents to refuse restraints was moderately related to nurses' feeling badly if restrained residents became more upset (r = .4, P .0000) and to whether they considered restraints to be a form of punishment (r = .4, P .0000). Comments indicated that, consistent with the literature (Berland, Wachtel, Kiel, O'Sullivan & Phillips, 1990), some consider the right to refuse is conditional on the resident's cognitive state, ability to make decisions, and behaviour. Some residents are seen as incapable of refusing. "Most (restrained residents) do not know enough to refuse", although many residents incapable of verbalizing remain able to express themselves non-verbally. It also was suggested that "time restraint (sic) - staff shortage", and the presence of a doctor's order should take precedence over a resident's right to refuse restraints. However, what respondents believe should be their rights if they were residents could differ substantially with what they as caregivers believe a resident's rights should be.

Nurses' Intrinsic Responses to Restraint Use

More than half the study group reported they are not embarrassed in the presence of family members when a resident is restrained. However, more NAs and PCAs (40%) indicated they experience embarrassment than do LPNs and RNs (27%), possibly because they are at the bedside more often therefore more frequently subjected to the situation. Some nurses who experience embarrassment, however, also consider restraints to be just part of nursing in long term care and support the use of restraints, as suggested by the comments: "Usually it's for a good reason, eg. safety for self and others", and "Usually the family do not understand why". However, other factors can influence whether or not staff experience embarrassment, as revealed for example by the relationship found between staff's embarrassment at using restraints and being short staffed ($r = .4$, P .0000).

Almost half of all respondents feel comfortable using restraints. An RN indicated that using restraints made her "feel safe", although the term is open to interpretation. Does she feel safe because she feels confident in the way in which they are used, or safe from a possible disciplinary or litigious action, or in the belief that residents are at less risk for injury? If restraints are not "administered properly" or not used appropriately, they may be viewed as a form of "abuse" or punishment. "I have seen transfer belts used as a punishment against residents, tying them to the wheelchair or chair when they should not be". One has to wonder if this experience was in the absence of a restraining order, believing a transfer belt used for this purpose (inappropriately) is not a restraint. Staff's feelings regarding working short staffed and the perception that restraints are a form of punishment were also shown to be moderately related ($r = .5$, P .0000).

Caring and Concern for Residents

Not surprisingly, most nursing staff believe it is important to express their caring attitude to the resident and feel badly if residents get more upset after being restrained. This is supported by suggestions that if possible, extra staffing is preferred to using restraints. Comments from several PCAs indicate that some dislike using restraints in practice. "I strongly disagree with any form of restraint that ties a person up or down. To me it is degrading and inhuman way to be treated . . . making him/her feel useless", and "When you apply a restraint for the resident they affect their physical feeling, they think they are bad". Another PCA wrote:

> Restraint is not a good idea for the olderly (elderly) . . . I don't agree about it at all. Restraints (restraining) the olderly is making that olderly in prison, not caring for her or him. We should be there and care.

Although almost half of all respondents in this study sample consider increased confusion to be a consequence of restraint use, the belief that restraining a resident "mostly calms them down after a period of time" is also held. One has to question how long this period of time might be and whether the perceived "calming effect" is a symptom of deterioration in cognition associated with social isolation imposed by restraint use (Folmar & Wilson, 1989).

Safety Concerns

Most respondents do not consider inadequate staffing to be the main reason restraints are used, therefore, restraints may be applied routinely for some residents regardless of staffing levels. However, a considerable but not statistically significant number of NAs and PCAs (N = 21; 29%) do believe inadequate staffing results in greater use of restraints and it is these nurses who usually apply the restraints. One respondent considers that "the main *abuse* (author's italics) of restraints is related to lack of staff". When staffing is inadequate, a resident's cognitive state, "mentally alert or impaired", and the need for supervision due to restlessness and confusion are cited as increasing the use of restraints. Without knowledge of effective alternatives, a dilemma exists, as indicated by one nurse: "I do not know how to better manage such a situation when there is not the staff to keep track of that type of resident".

A moderate relationship was demonstrated between staff's feeling that blame may be assigned if a resident falls and worrying that falls will result in injury (r = .4, P .01). More than one third (36%) of respondents feel they will be blamed if a resident they are caring for falls but this belief is more prevalent among NAs and PCAs (N = 36; 42%) than LPNs and RNs (N = 12; 25%). Similarly, responses indicate that many nursing staff feel responsible for resident falls, with significantly more NAs, PCAs and LPNs feeling this way (N = 58; 60%) than RNs (N = 11; 30%) (p .03). The difference may be explained by job function and an acceptance of accountability for one's own practice, as suggested by the comment, "We know our patients, residents and when they fall we are not understanding them as well as we could", or "If it is due to lack of care or supervision".

Although nursing staff may feel comfortable using restraints, many (61%) believe they are rarely necessary. However, consistent with the literature, concerns regarding resident injuries from falls if restraints are not used is a major concern for most staff (73%) regardless of level of nursing practice. "If a restraint is necessary to keep a

person safe from injuries, I would not hesitate to put one on". The belief that restraints increase safety and a fear of increased risk of falls when they are not used presents a dilemma for some staff; "Sometimes they (residents) need their freedom". Further, staff may differentiate between type of fall and the appropriateness of using restraints; "To prevent an ordinary fall, not drug related etc., is not reason enough to restrain". However, this emphasizes the need for a functional interdisciplinary model of care with a focus on resident outcomes.

Many nurses agree there are effective alternatives to restraints and several suggested that family members should provide "sitters" to prevent potential injuries. However, respondents' personal definitions of a restraint will influence their perception of what is an acceptable or effective alternative, or whether they recognize a need for an alternative. Nonetheless, some nursing staff seem convinced that restraints are an effective nursing intervention, as is suggested by a nurse who stated, "they are really necessary to protect the residents", and by another who wrote:

> "Vests . . . are very effective if you place (the resident) in a geri-chair, put their feet thro (sic) the arm-holes and tie behind geri-chair. It prevents resident from sliding down and in one case we had a resident who nearly choked in a geri-chair because of sliding down and the vest really worked.

As shown in Figure IV-1, few nurses (N = 40; 29%) oppose the use of restraints in the work environment. Although staff may not always like to see them used, analysis of variance demonstrated that significantly more NAs and PCAs are accepting of restraints than are LPNs and RNs (p .02) and restraints are seen to have a role in practice.

> I feel that our restraint use is very much a last resort in our care, however, in the case of one resident who becomes <u>extremely</u> physically and verbally agitated, restraining her is what is done when she is this agitated, and it is very effective.

Legal Liability

A moderate relationship was shown to exist between nursing staff's feelings regarding the nursing home's responsibility for resident safety and the belief that restraint use is just part of long term care (r = .4, P = .0000). Almost half of all respondents believe the nursing home is legally responsible to use restraints to ensure resident safety even at the expense of residents' dignity. This perception is more common among non-professional nurses (48%) than among LPNs and RNs (33%), with one PCA commenting, "I believe that the legal world has entered the medical world and the legal aspects are dominating. We are not doing what we feel should be

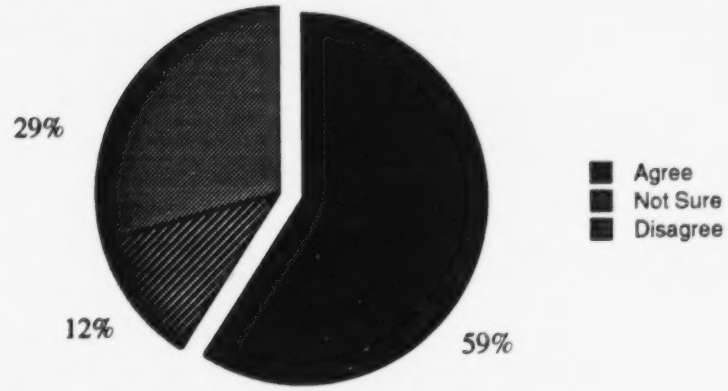

Figure IV-I. Nurses' Acceptance of Restraints

done for fear of legal action". Several non-professional nurses indicated they would like information regarding the legalities of restraint use. In addition, almost a third of RNs (31%) are unsure of the legalities. Concerns regarding legal liability may account for the belief of many respondents that staff should have the greater responsibility in the decision making process regarding restraint use. Unfortunately, concerns expressed related to potential legal percussions associated with the non-use of restraints, and the risk of litigation associated with their use was never mentioned.

Descriptive Summarization of Nurses' Attitudes

Responses to items measured on a Likert scale are subject to the influence of intervening variables and may not be highly discriminatory. Therefore, a factor analysis was conducted using all of the items to identify interrelationships among the variables. This made it possible to develop a descriptive summarization of the nurses' attitudes and to identify underlying albeit not directly observable constructs regarding attitudes about restraints. The data loaded on to five factors with an eigenvalue >1. They were categorized as (a) sensitivity and knowledge of resident needs, (b) feelings of guilt, (c) perceived rights/responsibilities of advocacy, (d) level of anxiety, and (e) self-protective behaviours.

The five factors were treated as individual variables, mean scores were computed, and oneway analysis of variance was conducted to determine if there were differences for level of nursing practice. All groups of nurses were shown to be

similar regarding feelings of guilt, rights of advocacy, and anxiety associated with the use of restraints. Significant differences were found between respondents' level of nursing practice and the remaining two factors, (a) sensitivity and knowledge of resident needs, and (b) self-protective behaviours.

SNK comparisons showed RNs and PCAs to have differing degrees of sensitivity and knowledge regarding the need for restraints (p .02). On examining the data for the variables which loaded on to this factor, there were insignificant differences in responses to some of the variables, such as feeling the need to express a caring attitude or feeling badly if a resident became upset. However, as a group, RNs in this study are less dependent on restraints as an nursing initiative and more confident of their right to refuse to use restraints.

The second factor for which significance differences according to level of nursing practice was demonstrated was that of self-protective behaviours (p .002). NAs and PCAs feel more threatened by potential for resident injury, possible personal ramifications if residents fall, and a greater responsibility to keep residents safe than do RNs. It is proposed that factors within the work environment are responsible for such feelings. Considering the above, it is not surprising NAs and PCAs are also more accepting of using restraints in long term care. Similarly, Schirm et al. (1993), found NAs to be more reluctant than licenced nurses to reduce the use of restraints. They were perceived to be unavoidable and harmless interventions necessary to enhance safety.

Comparison with the USA Study

Responses to the 11 items included in the developers' questionnaire were collapsed into three categories, agree, unsure and disagree, to facilitate comparison with the published results of the USA study (Janelli et al., 1992). The distribution of responses is shown in Table IV-5.

Nurses in both studies were similar in their caring attitudes toward restrained residents and feel badly if residents become more upset. However, where significant differences in attitudes existed (Table IV-6), nurses in the current study were more positive than those in the USA. They are less comfortable and experience greater embarrassment with the use of restraints and are more likely to believe their use is associated with increased confusion and being short staffed. They also are more aware of individual rights, including those of the family, residents and nursing staff, whereas the USA sample more firmly believes in the nursing home's legal responsibility to keep residents safe.

Table IV-5

Distribution of Responses to Attitude Items for Study Sample and USA

Statement	N		Agree %		Not Sure %		Disagree %	
	Can	USA	Can	USA	Can	USA	Can	USA
I feel that family members have the right to refuse the use of restraints	139*	117*	68	29	11	9	21	62
I feel nursing staff have the right to refuse to place residents in restraints	139	117	57	19	19	21	24	60
If I were the resident, I feel I should have the right to refuse/resist when restraints are placed on me	138	117	77	62	9	21	14	17
I believe that restraints are a form of punishing residents	139	117	9	2	6	1	85	97
I feel that the main reason restraints are used is that the nursing home is short staffed	139	117	20	8	9	3	71	89
I feel embarrassed when the family enters the room of a resident who is restrained	137	117	34	9	10	8	55	83
The nursing home is legally responsible to use restraints to keep the resident safe even if it means that the resident loses dignity	137	116	45	64	22	18	33	18
It makes me feel badly if the resident gets more upset after restraints are applied	140	115	88	82	4	6	8	12
I feel it is important to let the resident in restraints know that I care about him/her	141	117	96	96	1	2	3	2
It seems that residents become more confused after the restraint has been applied	140	116	45	27	24	30	31	43
In general, I feel comfortable taking care of a restrained resident	138	116	49	82	17	10	34	8

*Not all respondents answered all items.

Note: USA data from "Physical restraints: Practice, attitudes and knowledge among nursing staff" by Janelli et al, 1992, *Journal of Long Term Care Administration, 20*(2), p. 23.

Table IV-6

Results of Chi-square Analysis of Study Sample and USA Sample for Items Showing Significance

Statement	DF	Value	Prob
I feel that family members have the right to refuse the use of restraints	2	46.946	0.000
I feel nursing staff have the right to refuse to place residents in restraints	2	43.077	0.000
If I were the resident, I feel I should have the right to refuse/resist when restraints are placed on me	2	9.591	0.008
I feel that the main reason restraints are used is that the nursing home is short staffed	2	12.904	0.002
I feel embarrassed when the family enters the room of a resident who is restrained	2	24.558	0.000
The nursing home is legally responsible to use restraints to keep the resident safe even if it means that the resident loses dignity	2	10.498	0.005
It seems that residents become more confused after the restraint has been applied	2	9.166	0.010
In general, I feel comfortable taking care of a restrained resident	2	32.967	0.000

Discussion

Without knowledge of other factors, such as staffing levels, prevalence of restraint use, and participants' perceptions of what is a *restraint*, it is difficult to interpret these findings. Therefore, the reasons for the differences can only be speculated. It can be stated, however, that the differences are not associated with knowledge levels as knowledge scores and attitudes were not significantly related in either study. The stronger belief in the nursing home's legal responsibility to keep residents safe irrespective of a loss of residents' dignity could be attributed to a generalized greater tendency in the USA to pursue litigious action when injury is sustained. In addition, it is not known the degree to which social desirability affected responses in either study. Regardless, it is interesting that differences were demonstrated, and the value perhaps lies in the fact that assumptions should not be made regarding the generalizability of USA study results to Canadian populations.

General Discussion

There is a definite sense that nursing staff who provide the day to day care for residents in the study sites have a highly developed sense of responsibility to keep residents safe and free from injury. This may be seen to provide a high standard of care and may be the standard nurses are encouraged to meet. However, if the outcome is increased use of "safety" devices which restrict freedom of movement, the well-being of residents is in jeopardy and the standard has to be questioned. The risk of many, profound physiological and psychosocial ramifications is increased and the basic human rights to freedom and self-determination are violated. These are important issues when quality of life for the institutionalized elderly is considered. The belief that staff has the responsibility to prevent all injuries and that all falls are preventable is unrealistic in practice. All things in life include some degree of risk, yet when it comes to the elderly, the choice of accepting risk often is discouraged or denied.

The nurses in this study sample seem genuinely concerned for the wellbeing of the residents "in their care". However, they are also generally accepting of the use of restraints in the workplace. This could be attributed to staff's adherence to a personal philosophy of care based on the medical model in which paternalistic attitudes often prevail. In such circumstances, it is understandable that the primary focus would be to guard residents against any potential undesirable or adverse event. The RNs in particular may tend to subscribe to this type of philosophy; the majority in this study obtained their basic nursing education prior to 1970 and therefore may be less comfortable or familiar with other models of care. Non-professional nursing staff work to a proscribed routine, with a focus on completing tasks, what Gubrium (1975) describes as "bed-and-body work", and which in the study settings may include routine application of "safety devices" for some residents. This belief is supported by NAs who wrote, ". . . we don't have time to spare to talk to our resident or to know how they feel or what's in their mind", and "We work on quite a scheduled routine and often it is hard to get us to change our ways . . . . whatever is quickest and easiest for the staff is often what is implemented".

It is known from other data obtained in the study that there is not a consensus among staff as to what is perceived to be a restraint. Such differences would impact on responses to items measuring attitudes toward restraints. It therefore is suggested that a less positive attitude may exist than what these data suggest, particularly those related to the need for using restraints and alternative interventions.

Implications for Nursing Practice

It is recognized that discrepancies can exist between measurements of attitudes and actual behaviour therefore causation is not implied. The predisposition to act in a particular manner will not necessarily be reflected in practice due to many other intervening factors. External influences, such as institutional norms, degree of power or perceived control associated with position or cultural factors, and pressures to conform, can result in behaviour inconsistent with staff attitudes toward restraints. Nonetheless, it is important for those who make or implement nursing policy to know how staff feel about what they do. Most nurses in this study are accepting of restraints in practice and believe they are necessary to meet residents' safety needs. Also, consistent use of the terms "safety device" or "positional device" rather than "restraint" may increase their acceptance and contribute to use. This information can be useful to administrators and staff educators in the study sites if changes in policy are planned. It also should be of interest to those responsible for the content of the Personal Care Aide curriculum.

Recommendations for Future Research

Further study using a sample large enough to include gerontological nursing preparation as a variable is suggested. This would assist in determining whether knowledge gained through specialized learning was reflected in a more positive attitude including that of co-workers. Further knowledge of factors within the work environment which influence staff's attitudes about restraints and alternatives is also necessary so they can be addressed internally. It is also suggested that any research on restraints in long term care should not be limited to only nursing staff. Rather, it should be multidisciplinary, for nurses can not work in isolation and be effective, but must work as members of a team striving to meet a common goal based on outcomes which measure quality of life for the institutionalized elderly.

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CHAPTER V

NURSING PRACTICE AND THE USE OF RESTRAINTS

In the United States, legislation has been enacted which defines and severely restricts the use of restraints in nursing homes and changes under the 1987 Omnibus Budget Reconciliation Act (OBRA) were implemented in October, 1990 (Hegland, 1991; Tinetti, Liu & Ginter, 1992; Weick, 1992). Although efforts are being made to meet the new guidelines, it is not without challenge and the prevalence of restraint use continues to be cause for concern (Kallman, Denine-Flynn & Blackburn, 1992; Mion & Mercurio, 1992; Strumpf, Evans, Wagner & Patterson, 1992; Varone, Tappen, Dixon-Antonio, Gonzales & Glussman, 1992). In Canada, although the implications and ethics of restraining practices are being addressed in some long term care institutions (Harry & Kopetsky, 1991), legislating restraint use is not supported nor is it foreseen in the immediate future ('Safety" ties become killers, 1991; Stotland, Weber & Suleiman, 1988).

Although current restraining practices in Canada generally may be suspect, little is actually known. However, in the USA, studies have shown that nursing staff usually initiate the use of restraints (Frengley & Mion, 186; Macpherson, Lofgren, Granieri, & Myllenback, 1990; Schilder, 1987; Varone et al., 1992). Physicians' orders to use restraints may routinely be required by institutional policy (Marks, 1992) but the requirement is frequently unmet (Macpherson et al, 1990). In long term care facilities, nursing staff tends to have a highly developed sense of responsibility to protect residents from potential injury, and the belief that restraints are effective in preventing falls is common (Evans & Strumpf, 1990). However, restrained residents judged to be at high risk for falling continue to fall and sustain serious injuries (Tinetti et al., 1992) which if generally known should be cause for concern.

It has been shown that the most vulnerable residents, that is, those who display disruptive behaviour or have cognitive impairment, are at greatest risk for being restrained (Berland, Wachtel, Kiel, O'Sullivan & Phillips, 1990). However, many nurses have difficulty in identifying events which precipitate aggressive behaviour. This is often compounded by a lack of knowledge of effective alternatives which results in a sense of hopelessness and makes coping with events in any other way difficult (Ryden & Feldt, 1992).

Being informed of nurses' level of knowledge and their attitudes about restraints is important in the pursuit of change and have been addressed previously as part of this

research. However, to improve nursing practice, it is also important to describe and evaluate existing practice because practice is not necessarily congruent with knowledge levels or beliefs (Fishbein & Azjen, 1972; 1975). As a result, nurses' practice in the use of restraints was examined as part of a partial replication of a survey previously reported by Janelli, Kanski, Scherer and Neary (1992).

The Study

As part of the larger study, *Nurses and Restraint Use in Long Term Care*, a self administered questionnaire, the *Restraint Study Questionnaire* (Janelli et al, 1992), was administered to a convenience sample of volunteer participants who worked as nursing staff in one of three long term care facilities. Ethical clearance to conduct the study and permission to access nursing staff was obtained from the appropriate authorities. The study sites had a total capacity of approximately 500 residents and were part of a single not-for-profit organization in western Canada. Although it is not acceptable to alter a tool when conducting a replication study, three geriatric nurse specialists reviewed the questionnaire for content and face validity. In addition, a pre-test of the questionnaire was conducted using nurses from long term care facilities which were not a part of the research setting. Assurance was given to potential participants that confidentiality and anonymity of responses would be maintained and consent to participate was implied by returning a completed questionnaire.

In order to gain an insight into current practice in the use of restraints, participants were asked to select a response, always, sometimes or never, for each of 17 practice statements in the *Restraint Study Questionnaire*[1] (Janelli et al., 1992); consistent with the original study, six additional items were directed to only RNs and LPNs. In addition, participants were encouraged to make written comments. Distribution of participants' responses was examined and the chi-square statistic was used to test for significant differences in responses for selected characteristics of the sample. Written comments were used to assist in interpreting and clarifying responses. Lastly, a comparison of findings was made with those of the USA study.

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[1] See Appendix C. Used with permission of Y.K. Scherer, State University of New York at Buffalo School of Nursing. One item was inadvertently omitted from the original tool: "I tell family members/visitors why the patient is restrained".

Study Participants

All full time and part time (≥ .4 full time equivalents) (FTE) licenced and non-licenced unit based nursing staff were eligible for participation in the study. Of 206 nursing staff who met the study criteria, 141 returned completed questionnaires (68.5%). Included were 30 nursing attendants (NA) (21%), 59 personal care aides (PCA) (42%), 11 licenced practical nurses (LPN) (8%), and 37 registered nurses (RN) (26%). They ranged in age from 20 to ≥ 60 years with a mean of 41 years, most (94%) were female, 62% worked part time and 38% full time. Of those who responded, 45% worked days, 37% evenings and 18% nights. Nursing experience ranged from 1 to ≥ 31 years (M = 12 years) with an average of 9 years working in long term care.

What Nurses Do In Practice

Nursing practice in the use of restraints was shown to be similar for full-time and part-time staff and for all shifts. However, significant differences were found for some items when level of nursing practice was considered. As shown in Table V-1 there are some practices which are followed by the majority of nursing staff. Most respondents know why restraints are used before they are applied and answer calls for "help" as soon as possible, although "as soon as possible" is ambiguous in terms of time. Residents are told why they are being restrained and are monitored at least every two hours, although some nurses consider every 10 minutes to 30 minutes to be the standard of practice. Most look for bruising and reddened areas when giving care, but RNs may consider this to be a function of the unlicenced nursing staff who provide most of the personal care. Approximately half of all respondents always advocate for the resident if they think restraints are not necessary, and tell family members when restraints will be removed, although there is less agreement regarding following orders or delegating responsibility regarding the application of restraints.

Following orders/delegating responsibility: A third of nursing staff put restraints on residents when ordered. However, from the pre-test of the questionnaire it is known that some will have responded as to *who* places the restraint on the resident, that is, staff function, and others as to whether restraining orders are followed. Significantly more NAs, PCAs and LPNs (N = 33; 42%) always put on the restraints than do RNs (N = 4; 11%) (p .002). This could mean that either applying restraints is not an RN function or RNs are flexible in following orders. Similarly, significantly more NAs, PCAs and LPNs never direct others to put restraints on a resident (N = 43; 45%) as compared to RNs (N = 7; 19%) (p .01). Comments indicated that NAs and

Table V-1

Distribution of Responses to Nursing Practice Items

Statement	N	Always %	Sometimes %	Never %	Missing %
When the resident has to be restrained I put on the restraint	138*	33	49	16	2
When the resident has to be restrained I direct other members of the nursing staff to put on the restraint	136	7	53	36	4
I try alternative nursing measures before the resident is restrained	139	67	31	1	1
Before I restrain a resident I find out the reason for the restraint	138	87	9	2	2
When I feel that the resident does not need to be restrained I make this suggestion to the person in charge or the doctor	136	58	32	6	4
I answer the call light or calls for "help" for the resident who is restrained as soon as possible	135	89	5	2	4
I check on residents who are restrained at least every 2 hours to make sure they are okay	134	87	5	3	5
When giving personal care (bathing or dressing) to a resident who is restrained I check the skin for reddened areas or bruises	137	89	5	3	3
I tell the resident why the restraint is being applied	138	73	21	4	2
I tell the resident when the restraint will be removed	136	61	28	7	4
I tell family members/visitors when the restraint will be removed	134	52	27	14	7

*Not all items answered by all respondents

PCAs consider how busy the "floor" is, availability of others for assistance, and the need for physical assistance in placing a resident in restraints before asking co-workers to apply restraints.

Alternatives: Although the majority of respondents always try alternatives, 83% of RNs and LPNs indicated they use alternatives as compared to 59% of NAs and PCAs (p .01). However, responses to this item will be strongly influenced by respondents' personal definition of a restraint. For example, if a gerichair with a locked tray is not considered a restraint, the belief that an alternative nursing intervention should be considered is not likely to exist. Comments indicate that unlicenced nurses feel a need to follow doctor's orders, and if an order exists, it is because alternatives are perceived to be ineffective and the prescribed restraint should be applied.

Nurse as advocate: More than half of the nurses always advocate for the resident if they feel restraints are not needed. However, there is a significant difference (p .0001) in who will make suggestions to the nurse in charge or doctor. Of the 86 NAs and PCAs who responded, 11% indicated they never advocate for the resident and 43% (N = 37) make a suggestion only sometimes, but perhaps only to the nurse in charge, not to the doctor. However, 83% of LPNs and RNs (N = 39) always make suggestions if they feel restraints are not needed, and the remainder make suggestions sometimes. The differences in staff's willingness to take action on behalf of residents is disconcerting, particularly when those who have the most intimate contact with the residents are least likely to act on their behalf. From comments made by many of the unlicenced nursing staff, it is known that it is not from a generalized lack of caring. Therefore, other factors must be involved and it is suspected it relates to their personal perception of their role and status as part of the caregiving team.

Collaboration in the decision to restrain: Participants had differing opinions and practices concerning residents' or families' roles in decision making regarding restraints and their use. Many staff members always tell the resident why a restraint is applied but others do not. However, consistent with other studies, residents' cognitive function influences practice (Berland et al., 1990). Confused residents "would not understand". "I tell the residents that are aware why there (sic) tied in but not cognitively (sic) impaired". Fewer nursing staff tell residents when restraints will be removed, as they frequently they do not know when they will be removed or there is no plan to discontinue their use. "If it's used, it's used". In this regard, the nurses in this study confirm reports that once restraints are initiated, their use often continues indefinitely (Schilder, 1987). As one PCA explained who had previous experience with removing restraints in a setting external to the study site, "The process of removing–monitoring for 2 weeks is too time consuming, charting etc.".

When level of nursing education was considered rather than level of practice, which resulted in eight additional nurses in the RN category, a smaller proportion of

RNs (57% versus 64%) always tell residents when restraints will be removed. Therefore, telling/not telling residents may be a function of position one holds on the unit, a perception supported by a NA who believes, "Only the person on (in) charge or Dr. can do it".

Although half of study participants always discuss the removal of restraints with residents' families or friends, there was a significant difference between NAs/PCAs and LPNs/RNs in this regard (p .0008). Whereas 71% of RNs and LPNs (N = 32) always talk to family, only 46% of NAs and PCA do (N = 38), and many (25%; N = 20) never discuss the matter with family. However, not all staff have an equal opportunity to meet family members, such as those working nights. Reasons offered for not talking with family are consistent with those for not telling the resident. Staff feel they often do not know when restraints will be removed or they do not believe it is their prerogative. "It's the "HN (head nurse) job".

Practice Statements Directed to LPNs and RNs[2]

Of the 48 LPNs and RNs in the study sample, the majority of RNs (N=25; 70%) indicated restraints were used more often when short staffed as compared to 18% of LPNs, with the requirement for constant supervision being offered as a reason. Although there is evidence to the contrary (Blakeslee, 1988; Evans & Strumpf, 1990; Strumpf & Evans, 1991), some respondents see restraints as increasing safety or reducing the time required for monitoring some residents, which could be construed as restraint use for staff convenience.

Most RNs and LPNs have read the restraint policy and check to see if restraints have been properly applied. Although they generally agree that staff always works together to discover other ways to manage resident behaviour, more RNs perceive this to be true (78%) than do LPNs (64%). Restraints are often available on the unit, particularly, as suggested, if there is a doctor's order. If there is not an order, staff may look to the RN for guidance. "Do as directed by the RN". As with other items in the questionnaire, nurses' individual perceptions of what is a *restraint* will have influenced their responses, particularly in regard to the availability of restraints in the work setting.

Lastly, as has been found by other researchers, medication is seen as a viable alternative to using restraints for many LPNs and RNs (Varone et al., 1992). "Some

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[2]Due to the limited number of LPNs and RNs in the study, statistical tests for significance were not reliable. Although occasionally NAs and PCAs answered some of the items and may have had an LPN or RN educational background, an arbitrary decision was made to exclude these data.

residents become more agitated when restrained", and medication is preferred if a restraint is a "danger to resident's health", although the concept of "health" is not qualified. The degree of acceptance of medications is not surprising considering the general acknowledgement of the use of chemical restraints in long term care settings. Perhaps an LPN captured the views of many nurses when she wrote:

> I believe sedatives do have a place in aggressive (sic) behaviors and how to deal with them. But, I truly feel too much is no good as well. When you have a good balance, drugs, and nutrition, hygiene, good care by good people, it works best.

However, generally RNs rather than LPNs prefer to use medications, with 20% of RNs (N = 7) always preferring medications, as compared to 9% (N = 1) of LPNs. This difference might be explained in part by the fact that LPNs in this study do not have the authority to administer medications therefore may feel less comfortable with their use and more inclined to opt for restraints. Further exploration of the items directed to only the LPNs and RNs would be valuable with a larger sample and no need is seen to exclude the unlicenced nursing staff.

Comparison of Findings: Canada and USA

Although sample sizes of the Canadian and USA studies were similar (141 and 118 respectively), the number of potential participants in the USA study was much larger (600 versus 206). In addition, staffing mix differed. The USA study population had more LPNs and there was only one level of unlicenced nursing staff (NAs) as compared to NAs and PCAs in the investigator's study[3]. Response rates according to level of nursing practice for the two studies are shown in Table V-2.

When responses to the nursing practice statements from the two studies are compared (Table V-3), nurses in the current study are less likely to always put on restraints but also are significantly less inclined to question their use than nurses in the USA study (p .01). However, willingness to advocate for residents in the USA study was associated with level of nursing practice, with significantly more RNs and LPNs advocating for residents. The difference could be attributed to staffing mix in the USA sample; almost half were LPNs or RNs (46%) compared to 35% in the Canadian sample. Although Canada and the USA share a common international border, differences in culture exist, not only in regard to ethnicity but in the broader context

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[3]NAs in the USA system and PCAs in the Canadian system may be similar in that they have some nursing education, whereas NAs in Canada generally have no formal nursing education.

Table V-2

Response Rates by Level of Nursing Practice: Canada and USA

Practice	Study Population				Study Participants				Response Rate	
	Canada		USA		Canada		USA		Canada	USA
	N	%	N*	%	N	%	N	%	%	%
RN	49	24	100	17	37	26	17	14.4	75.5	17
LPN	15	7	200	33	11	8	38	32.2	73.3	19
NA	41	20	300	50	30	21	63	53.4	73.2	21
PCA	101	49		—	59	42		—	58.4	—
Unknown					4	3				
Total	206	100	600	100	141	100	118	100	68.5	19.7

* Data compiled from Scherer et al., 1991. Population statistics were stated to be approximations.

which includes the health care systems (Harrison, 1992). In addition, much of the difference found between the USA and Canadian nurses probably relates to the nursing home reforms subsequent to legislation of restraint use in the Omnibus Reconciliation Act, 1987 which prohibits routine use of restraints in the USA (Algase, 1992). Nurses in the USA are aware they must honor residents' rights to be free of restraints and to make choices (Mion & Mercurio, 1992). Although the full force of the changes may not have been in effect when the USA study was conducted in 1989, there was considerable discussion and preparation occurring within the industry prior to its mandatory implementation in 1990 (Neary, Kanski, Janelli, Scherer & Morth, 1991; Strumpf & Evans, 1990).

Nursing staff in the current study indicated they are more likely to always try alternatives than their USA counterparts. However, as discussed previously, what one considers to be a restraint will affect the validity of this finding. Although there is little difference between the two study groups regarding staff's discussion of restrained residents with friends or family members, communicating to residents why restraints are applied is more commonly done by nurses in the current study. Chi square test for significance demonstrated that more nurses in this study sample tell residents when restraints will be removed (p .008). Comparisons of six items addressed specifically to the LPNs and RNs were not possible as results are not reported in the literature for the USA study.

Table V-3

Responses to Nursing Practice Items: Canada and USA

Statement	N		Always		Sometimes		Never		Missing	
	Can	USA	Can	USA	Can	USA	Can	USA	Can	USA
When the resident has to be restrained I put on the restraint	138	117	32.6	55.9	48.9	41.5	16.3	1.7	2.1	0.8
When the resident has to be restrained I direct other members of the nursing staff to put on the restraint	136	115	7.1	7.6	53.2	53.4	36.2	36.4	3.5	2.5
I try alternative nursing measures before the resident is restrained	139	115	66.7	40.7	30.5	50.8	1.4	5.9	1.4	2.5
Before I restrain a resident I find out the reason for the restraint	138	115	87.2	72.0	8.5	24.6	2.1	0.8	2.1	2.5
When I feel that the resident does not need to be restrained I make this suggestion to the person in charge or the doctor	136	115	58.2	73.7	31.9	22.9	6.4	0.8	3.5	2.5
I answer the call light or calls for "help" for the resident who is restrained as soon as possible	135	114	89.4	89.8	5.0	6.8	1.4	0.0	4.3	3.4
I check on residents who are restrained at least every 2 hours to make sure they are okay	134	116	87.2	90.7	5.0	7.6	2.8	0.0	5.0	1.7
When giving personal care (bathing or dressing) to a resident who is restrained I check the skin for reddened areas or bruises	137	116	89.4	95.8	5.0	1.7	2.8	0.8	2.8	1.7
I tell the resident why the restraint is being applied	138	116	73.0	63.6	21.3	34.7	3.5	0.0	2.1	1.7
I tell the resident when the restraint will be removed	136	116	61.0	44.1	28.4	47.5	7.1	6.8	3.5	1.7
I tell family members/visitors when the restraint will be removed	134	116	51.8	49.2	27.0	40.7	14.2	8.5	6.4	1.7

Use of the Questionnaire to Measure Nursing Practice

The SPSS procedure for reliability was used to determine the reliability of the questionnaire items to measure nursing practice related to restraints. The six items directed to only the RNs and LPNs were not included. A Cronbach alpha coefficient of .77 was obtained. This is an acceptable alpha and similar to that reported by the developers of the questionnaire (.80) (Kanski, Neary, Scherer, Janelli & Morth, 1990). It is suggested that some important information is obtained using the tool but further testing is advised before its true value as a measure is established.

Discussion

It is the unlicenced nursing staff who apply restraints but it is also these nurses who are less sure of using alternatives. The existence of a doctor's order strongly influences practice, with the belief that if it is ordered, use it. Most disconcerting is the NAs' and PCAs' reluctance to question the use of restraints when they are not seen to be necessary. Comments from the unlicenced nurses indicate that a hierarchy exists within the levels of nursing practice which could account for some practices, with physicians having the greatest authority. This is supported by Bernal (1992) who states, "In actual practice, institutional and hierarchical constraints often prevent nurses from acting as advocates". Once a decision regarding care has been made, the unlicenced nurse may see her role as following the plan of care at the bedside until advised otherwise. The perception of the unlicenced nurses that "We are nobody as we don't give meds—just somebody to get the work done" may not be widespread, but it may exist to some degree for some staff.

The reticence of unlicenced nurses to discuss the use of restraints with family members may also suggest there there is the perception that clearly defined roles exist within the levels of nursing practice. However, it also could reflect an acceptance of the use of restraints, that they are a non-issue, or that discussion is not in order because decisions regarding restraints are primarily the domain of the doctor and others.

It is tentatively suggested that the use of medications for the purpose of controlling behaviour rather than for treatment of a diagnosed condition is supported by many of the RNs and LPNs in this study group. They may not be aware that psychotropic drugs greatly increase the risk of falls in elderly populations (Conely & Campbell, 1991). However, the dilemmas experienced in practice when providing care for disturbed and disturbing residents often leave staff not knowing what to do, particularly when knowledge of alternatives may be limited to only less restrictive devices.

Implications for Nursing Practice

There are no public regulations which control the use of restraints in practice in Canada, but rather, it is left to health care organizations to develop their own standards. However, it has been suggested that it is premature to expect health care workers and families to reject restraints considering how entrenched their use is in practice (Johnson, 1990). Much of what occurs in practice, that is, what is considered acceptable or not acceptable, is determined by organizational culture and the beliefs of those responsible for making restraint related decisions. The ultimate authority often lies with the physician as a written order for a restraint is required, although many devices used which restrict freedom of movement are not considered to be restraints and no order is necessary. Regardless, the request for a physician's order is usually initiated by a nurse at some level, goes up to the nurse in charge, and frequently just fulfills the requirements of an institutional policy. It does not necessarily indicate the physician has assessed the resident nor that the physician is highly competent in the care of geriatric patients (Johnson, 1990). In fact, Marks reports as recently as 1992, that the topic of restraints is absent in medical textbooks, including geriatric texts and the geriatric review syllabus. Therefore, is it safe for all involved, particularly the resident, to assume that physicians have a higher ethic or greater knowledge or interest in doing what is "right", and therefore are the appropriate persons to be responsible for such decisions? Or, is the policy intended to "protect" the nurses in the event of an untoward event? If making decisions to restrain are not deemed to belong within the realm of nursing, are professionals in the rehabilitation arena who are located within the facilities not as well or better equipped than physicians to make a more informed assessment? Logically such decisions should be interdisciplinary with considerable input from the resident when possible, otherwise from informed family members.

It is nurses who know the residents best therefore it is both logical and essential they be proactive within their facilities. In regard to the use of restraints, the other option is to do nothing but risk the introduction of regulations which sometimes make good care harder to deliver (Collopy et al., 1991). Reporting inevitably increases and infringes on time that could otherwise be used to greater advantage. It is necessary that nurses be knowledgeable about the detrimental effects of restraints on residents' wellbeing and that this information be shared with other residents and family members. For licenced and unlicenced nurses to work effectively and for the common good of the resident and community, they must recognize, foster, respect and above all, encourage each others skills. Collaborative decision making and a free flow of ideas regarding sensitive issues are important, particularly if the intervention is not executed by the

group. When requests for restraining orders are made, it must be with the full knowledge that residents do not leave their basic human rights to freedom at the door when they enter a long term care facility.

It is hoped that in Canadian long term care facilities the movement to limit the use of restraints in practice will follow that currently underway in the USA, with or without legislation. Research in the USA is now being directed to the development and evaluation of restraint reduction programs and subsequent resident outcomes. Initiating programs is a complex and intensive endeavour, and may be seen as unnecessary or met with opposition by many nurses (Strumpf & Evans, 1991). However, it has been the experience of others that they can be very successful. Improved resident behaviours, positive changes in staff outlook, and an increased ability for staff to work as a team are being seen as measures of success (Goldman, Torell, Blakeslee & Papougenis, 1991).

The role of the gerontological nurse in practice must change along with the new ethic in nursing homes which moves the focus from custodial care, constraint and control, to autonomy, independence and dignity (Collopy, Boyle & Jennings, 1991). This will not be achieved until there is a shift in philosophy away from a paternalistic, medical model of care in which the primary focus in on protecting residents, keeping them safe and guarding them against all injury.

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CHAPTER VI

GENERAL DISCUSSION AND CONCLUSIONS

This study has provided a description of nursing staff's knowledge, attitudes and practice in regard to restraint use in selected long term care facilities. It was proposed by Fishbein and Ajzen in their early works that a person's beliefs are basic to their attitudes about a particular phenomenon (1972; 1975). However, as they state, it is not prudent to assume that a person will necessarily act according to their attitudes, as attitudes only indicate a predisposition to behave in a certain manner. Other factors also impact on ultimate actions, such as competing beliefs when evaluating a situation prior to making a decision.

The findings of this study contribute to the discussion regarding the predictability or lack thereof of relationships among knowledge, attitudes and behaviours. If Fishbein and Ajzen's framework is accepted, the lack of correlation between nurses' knowledge and attitudes toward restraints in this study sample should not be unexpected. Indeed, none of the study participants' responses to individual attitude items were shown to correlate to total knowledge scores at the .01 level. That is not to suggest that staff should not become better informed about restraints. It is evident that all levels of nursing staff could benefit from an educational program which deals with all aspects of restraints, including alternatives in practice, and legal responsibilities associated with their use. Existing opportunities in the study sites for learning about restraints and their alternatives are limited, and some respondents expressed an interest and need to be better informed. In addition, "Education is a method by which basic attitudes, values, knowledge, and principles of practice are systematically conveyed" (Strumpf, Evans, Wagner, & Patterson, 1992, p. 22), therefore it is valuable and necessary in all settings.

Being informed of nurses' existing knowledge level about restraints is important and education is one factor which warrants due consideration in the pursuit of change. However, providing information alone is not adequate to effect change in practice, as demonstrated empirically in a pilot program conducted by a gerontologic nurse specialist over four consecutive months (Strumpf et al., 1992). Some positive changes in staff's beliefs about the efficacy of restraints and a broader knowledge of potential alternatives resulted. However, the outcome of the program was an initial increased use of restraining devices which were perhaps less restrictive and used over shorter periods of time. Conflicting beliefs, namely a lack of clear evidence of administrative

support for changes in practice, were determined to be the primary factor contributing to the disappointing results.

The perception exists among many RNs that inadequate staffing results in a higher prevalence of restraint use, although they generally may not believe it to be the primary reason for using restraints. Because it is the RNs rather than those providing the direct care that tend to feel this way, one suspects that non-professional nursing staff regularly or routinely apply restraints regardless of their workload. Such a belief is also suggestive that increased staffing is required when restraints are not used, a sentiment which is supported also by many non-professional nurses in the study sample. However, to date data have not shown this to be true (Johnson, 1991). As Johnson states, the assumption that better care in nursing homes always requires more staff and money warrants questioning, particularly in regard to the reduction of restraints.

As previously stated, education is one medium through which beliefs and attitudes are conveyed. Therefore, the information provided regarding the use of "safety devices" in the PCA course will be instrumental in the development of non-professional nurses' attitudes about these devices. It is understandable and admirable that the non-professional nurses, who have the greatest contact with the residents and provide most of their care, are concerned about resident safety. However, it is cause for concern if their primary preoccupations are with safety and fear of being blamed or threatened by possible ramifications resulting from fall related incidents. Such attitudes can result in overprotection and unnecessary restriction of residents (Laming, 1992). The reasons non-professional nurses may feel this way can only be speculated and are worthy of exploration.

The acceptance of restraints by so many nurses is not surprising considering their general widespread use in long term care settings. However, the non-professional nurses' frequent lack of questioning when they do not believe them to be necessary is disconcerting. Obviously, other conflicting factors or operatives exist within the workplace which need to be identified and addressed. It is these nurses who have the greatest contact with the residents and who are instrumental to their wellbeing. It is also this group of nursing staff who perceive themselves to be the most vulnerable and to have the faintest voice in some aspects of care. "We as staff do not have much control over these decisions". It seems intuitively logical that if quality of care is the focus within the workplace, dialogue should flow freely in all directions. All staff should sense that their opinions and participation in decision making are valuable and important to resident outcomes.

Of equal concern is the number of nurses who may erroneously believe they are using alternatives in practice. However, in actuality, they may not stop to consider the process employed in selecting the "alternative". In many instances the decision is based on the alternative's efficacy to control behaviour. If the intervention continues to restrict the resident's freedom to move, it too is a restraint and little has been gained. On the contrary, a greater injustice may have been served, as the issue of restraint may be considered resolved and discussion is ended.

Although study participants were queried about their perceptions of the efficacy of alternatives to using restraints, they were not asked to identify alternatives and an indepth discussion of alternatives is not the focus of this thesis. However, a few nurses volunteered their views and a brief overview of these data and recent developments as discussed in the literature are in order.

It can be stated unequivocally that many nurses in this study consider the gerichair and siderails to be alternatives to restraints. This sentiment was not only expressed, but is obvious from the number of respondents who did not include them in their lists of known restraints. Of the 11 participants who volunteered comments regarding alternatives, eight were NAs or PCAs. Increased observation by augmenting nursing staff or having family or staff sit with the resident was suggested most often. The other alternatives offered were talking to residents to know "what is in their mind", "keeping them busy when I am doing my work . . . and with myself so I can wash (watch) them", and taking them on long walks between periods of restraint. One of the two RNs who volunteered their views suggested that the reason for the undesired behaviour which put the resident at risk for being restrained should be investigated, and the other recommended "sedation". The absence of variability of suggested alternatives is considered indicative of the knowledge of alternative ways to deal with resident behaviours which result in the application of restraints.

The moving force in restraint reduction in long term care in the USA has been the Kendal Corporation, a not-for-profit corporation governed by the Religious Society of Friends (Quakers) whose facilities have been restraint free for 18 years (Goldman, Torell, Blakeslee, & Papougenis, 1991). It is guided by a philosophy that honors and upholds the elderly person's basic human rights. The program which they have developed and presented widely in the USA is outlined in a resource manual (Untie the Elderly®, 1990). Lewin's framework (1947) is used to effect the change process. Interventions to eliminate restraints are based on total involvement and are a responsibility of all departments and all staff, therefore, activities such as monitoring wanderers are not limited to only nursing staff. Highly individualized care is provided

which reflects each resident's uniqueness and recognizes their previous roles, habits, daily routines and interests. These factors are then incorporated into their care and the institutionalized aspects of care commonly found in facilities are de-emphasized to reduce residents' stress. A part of the effort to minimize the effects of institutional living is staff's wearing ordinary clothing rather than uniforms. In addition, all staff receive "interdisciplinary training . . . on the care, needs, and expectations of older persons, with special attention on proper handling of emotional problems" (p. V-1). Expert therapists are used to adapt the environment, and sensitivity, creativity and interdisciplinary team work are instrumental to success, recognizing that no single recipe for success exists.

Although the philosophy of care is considered primary to the reducion of restraint use, comfortable seating for all residents is of primary importance. Wheelchairs are used only for transportation and gerichairs are never used as they are considered restraints, as are siderails if they cause anxiety or unless half-length siderails are useful to residents as grab bars for turning. Hi-Lo beds are lowered to the floor which is also padded if the resident is at risk of falling out of bed. Many innovative yet inexpensive adaptations are used, but what is seen to be of greater importance is the development of close nurse-resident-family relationships which are encouraged by organizing staff so residents have the same caregiver week after week.

The body of literature on alternatives measures for use in practice is growing (Brower, 1991) as well as descriptions of newly developed restraint reduction programs (Coburg, Lynch & Mavretish, 1991; Kallman, Denine-Flynn & Blackburn, 1992; Mion & Mercurio, 1992; Rader, Semradek, McKenzie & McMahon, 1992; Young & Vucic, 1990). Some have had both formative and summative evaluations conducted (Goldman et al, 1991; Strumpf et al., 1992). In brief, restraint reduction programs are complex, often resisted (Strumpf & Evans, 1991), and all require a creative, individualized approach to resident care (Sloane, Papougenis & Blakeslee, 1992). To be successful, they must begin with total institutional support, including board members, all departments, families, other residents, and physicians (Hegland, 1991; Mion & Mercurio, 1992; Strumpf et al., 1992). They require extensive planning and education, careful implementation, and ongoing monitoring to be accepted and effective. Perhaps the greatest importance lies in the belief that a life with quality involves some risks.

Nurses working in long term care settings have a need for specialized skills. As suggested by Wexler (1987), they increasingly will need to find ways to provide care that is not so "medically based", particularly when the focus of interventions is on

caring rather than curing. The success of limiting the use of restraints is highly dependent on nurses' ability and willingness to learn how to systematically assess and document precipitators of behaviours and other resident characteristics that increase the risk of being restrained (Varone et al., 1992). These include understanding the roles of pain, touch, the invasion of personal space, environmental influences, and other factors as precipitators of aggressive behaviour (Ryden & Feldt, 1992). It also requires a thorough knowledge of the underlying causes of confusion and wandering behaviours, and skills in assessing wandering patterns, such as those outlined by Algase (1992). It is important that physical restraints are not substituted with inappropriate use of medication, that is, medications used for control of behaviour rather than for treatment of a diagnosed condition (Burger, 1992). Lastly, the obvious will be stated. Alternatives to restraints have to be available for use.

As more long term care facilities begin to adopt some of these changes in practice, and standards begin to focus on quality of life issues rather than on safety and custodial care, firmly held convictions will have to be questioned. Only then will the myths regarding the efficacy of restraints gradually be dispelled.

Limitations of the Study

Several limitations to this study exist and are acknowledged. First, and as with most restraint related research that has been conducted to date, a small convenience sample was used and the findings have limited generalizability. However, issues of concern for both nursing staff and restrained residents previously identified in much of the literature were also found to exist is this study sample.

The *Restraint Study Questionnaire* has not been used widely and reliability testing is limited. If only the Cronbach alpha coefficients for this study sample are considered, the questionnaire is not a reliable as a measure of knowledge of restraints for reasons previously discussed. But, it is an acceptable measure of nurses' attitudes and practice in the use of restraints. However, in this study, providing respondents with the opportunity and encouraging them to make written comments throughout the questionnaire resulted in some rich data. This made it possible to gain some insight into what they were feeling when considering responses and also into factors considered in the decision making process before a response was selected. On occasion, written comments also offered an explanation when discrepancies seemed to exist in responses of individual participants for some items.

Although an acceptable response rate was obtained, some nonresponse bias may exist. The greatest number of participants were PCAs, but as a group they were less

well represented than nurses from the other levels of practice. This may be related to the cultural diversity in this particular population and the number of potential participants for whom English is a second language. It is known that approximately 18 PCAs who met the study criteria could have experienced difficulty in completing the questionnaire and therefore might have chosen not to participate in the study. Although an opportunity to arrange for assistance in reading the questionnaire was provided, it was never sought. Cultural differences may exist which are not be reflected in the data. Similarly, to enhance anonymity and encourage participation, respondents from ethnic minority groups or cultures were not identifiable. This also could weaken the study results as other factors may have influenced responses, such as minority groups' perceptions of their role and status as practitioners, or their attitudes toward the elderly or to the institutionalization of the elderly. However, it is known from reviewing the written comments, many nursing staff for whom English is a second language did participate in the study. That is not to say they do or do not have Western cultural values.

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APPENDIX A

Physical Restraints: A Review of the Literature

Although many health care workers claim to dislike using physical restraints (Kinsella, 1986, Schwartz, 1985; Yarmesch & Sheafor, 1984) and policies intended to limit the application of restraints exist, their use continues to be widespread (Stilwell, 1991; Strumpf, Evans & Schwartz, 1990) with the elderly being eight times more likely to be restrained than the general hospital population (MacLean, Shamian, Butcher, Parsons, Selcer & Barrett, 1982). It is generally accepted when planning care for elderly residents in long term care that the goal is to preserve the integrity of the person and to enhance or maintain functional status and quality of life (Government of the Province of Alberta, 1988; National Citizens' Coalition for Nursing Home Reform, 1985). However, nursing staff commonly make the decision to use restraints to control behaviour or to reduce fall rates irrespective of the well documented undesirable physiological and psychosocial effects of restricting movement (Evans & Strumpf, 1989a). The use of restraints generally is not viewed as unethical, inhumane or illegal (Schilder, 1987; Strumpf & Evans, 1991). In long term care facilities, once the use of restraints is initiated it tends to continue ad infinitum, is viewed as a part of routine care to enhance safety, and a necessary precaution to protect staff from litigation in the event of accidental falls. The current knowledge of restraints as identified in the empiric literature is reviewed.

Conceptual Issues

The concept of restraint is rarely discussed in the literature but includes (a) psychological restraint (verbal or non-verbal threats and coersion to comply), (b) chemical restraints (pharmaceutical interventions to control behaviour), (c) mechanical restraints (devices to control movement or behaviour), and (d) physical restraints (the term commonly used for mechanical restraints, but in the psychiatric literature may refer to forcibly holding down an individual). Although all of the above are worthy of discussion, this review is limited to physical restraints.

In the nursing literature, restraints are increasingly being referred to as protective or safety devices (Stilwell, 1988). This is attributed to the increasing negative connotation associated with the word *restraint*, and to the legal implications surrounding their use. The ambiguity of the term is also exemplified in the differences in the operational definition of a restraint in studies to date. For the purposes of the

ensuing discussion, a restraint is any device, material or equipment intended to prevent or limit free bodily movement, such as in turning, lying, sitting or walking, or any intervention which hinders the ability to assume a position of choice. A brief history of the use of restraints and their prevalence and incidence in practice is followed by discussion of decisions and rationale for justifying restraining practices, factors within the work environment, nurses' responses to using restraints, characteristics and consequences of those restrained, and legal-ethical issues surrounding their use. Finally, a brief overview of the most recent literature is presented which deals with alternative interventions, restraint reduction programs and their outcomes.

History of Restraints

Humane interventions exist to make the need for restraints a rare event yet nursing practices persist based on long standing myths and assumptions (Blakeslee, Goldman, Papougenis & Torell, 1991; Evans & Strumpf, 1990). Historically, restraining measures and isolation were used as punitive measures for disruptive behaviour, to coerce the insane[1] to conform to routines (Dewhurst, 1970; Pinel, 1806; Tuke, 1813; Tuke, 1882). Pinel (1732-1822), a French physician and governor of the Asylum de Bicêtre in Paris, fastidiously documented patient behaviours in an attempt to discriminate among different "species" of disease. What he found was that the widespread use of restraints appeared to be a major factor contributing to the behaviours for which they were applied. Subsequently, shackles at Bicêtre were removed in 1793 (Pinel, 1806). Meanwhile, in 1796, William Tuke, a Quaker in York, England, was instrumental in establishing *The Retreat*, an asylum for "mad" individuals (Tuke, 1813). It was designed to accommodate patients with wandering or disturbed behaviours, and the mandate was to provide humane care without resorting to restraints. Although these reformers' backgrounds and motivation to effect change differed, their quests were similar and both subscribed to the unusual notion that comfort was associated with therapy.

The view that violent and disturbed or disturbing behaviour could be managed without restraint soon spread throughout much of Europe. In more recent times, Cubbin (1970) reported that only a few of the "less enlightened" hospitals in England used locked seclusion to manage episodes of violent behaviour, a practice she describes as barbaric. There is little mention in the nursing literature of the move away from using restraints (Evans & Strumpf, 1989a). However, writings of Florence

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[1] Terminology in use at the time is used.

Nightingale (Seymer, 1954) suggest that it was a gradual process, dependent on the attending physician and subject to the discretion of administrators, factors which continue to be major determinants of restraint use in Canada and to a lesser degree in the USA:

> Restraining and non-restraining processes, and their results may be seen, both where, in the same Hospital, one or more of the Surgeons orders restraint never to be used to his patients, however violent, and others order it to be used in violent cases: and where the rule of the Hospital is to restrain violent cases, removing the restraint so soon as the paroxysm is over, or as soon as amelioration renders the sudden return of paroxysms less likely. (p. 84)

Today restraints are seldom used in England for the infirm, confused elderly or mentally ill (Brower, 1991). Unfortunately, the views held by Pinel and Tuke were generally met with opposition by psychiatrists in North America (Bannister & Moyer, 1882; Hunter & Macalpine, 1963; Tuke, 1885). Although the detrimental physiological and psychosocial effects associated with immobility and social isolation are well known today (Bernal, 1984; Folmar & Wilson, 1989; Kellerman & Seigel, 1977; Miller, 1975; Mobily & Kelley, 1991; Olson, 1967; Olson & Wade, 1967; Oster, 1976; Selikson, Damus, & Hamerman, 1988; Slimmer, Lopez, LeSage & Ellor, 1987; Strumpf & Evans, 1991), the use of restraints gradually became widespread (Guirguis & Durost 1978; Lofgren, MacPherson, Granieri, Myllenbeck & Sprafka, 1989; Nordstrom, Smith & Meilicke, 1983; Schilder, 1987; Robbins, Boyko, Lane, Cooper & Jahnigen, 1987). Over time they became a part of acceptable practice when caring for the elderly in non-psychiatric settings, with standards of care evolving from consensus rather than from proven efficacy based on research findings (Guirguis & Durost, 1978; Rubenstein, Miller, Postel, & Evans, 1983; Schilder, 1987).

After a decade of advocacy, the definition and guidelines for restraint use in nursing homes in the United States was mandated federally in the Nursing Home Reform Amendments and implemented in October, 1990 as a result of the 1987 Omnibus Budget Reconciliation Act (OBRA) (Hegland, 1991; Johnson, 1990). The statute severely restricts the use of restraints as residents have a "right to be free from any physical restraints imposed or psychoactive drug administered for purposes of discipline or convenience, and not required to treat the resident's medical symptoms" (Strumpf & Evans, 1991, p. 29). This legislation was not accepted gladly by many states and several offered strenuous resistance to comply with the law, attempting to have it waived (Strumpf & Evans, 1991). However, adherence to the standards is

diligently monitored by surveyors to determine eligibility for participation in Medicare and Medicaid and for the purposes of state certification (Hegland, 1991).

Mion and Mercurio (1992) report that a recent survey indicates the outcomes of the restraint legislation in the USA are encouraging. To date, similar legislation is not supported in Canada ('Safety' Ties, 1991; Stotland, Weber & Suleiman, 1988), nor is there any indication it is being contemplated. Policies continue to be the responsibility of the administration within individual institutions to provide for care which addresses the residents' best interests and enhances their well-being. However, as Collopy, Boyle and Jennings (1991) suggest, legislating practice can create a paradox, and may make the plight of residents worse rather than better. If regulations become an obstacle to meeting the objectives they are intended to attain and result in self-protective behaviours directed to complying to the letter of the law rather than to the spirit of the law, nothing is gained. As such, the risk exists that over regulation can result in the introduction of inflexible policies which may satisfy the regulators but are antithetical to meeting the needs of residents. Nevertheless, if this argument were proposed in regard to legislating the use of restraints, one would have to question how it could possibly result in a lesser standard of care or quality of life for those at risk of being restrained.

Incidence and Prevalence of Restraint Use

In 1972 the routine use of restraints was challenged by Guirguis and Durost (1978) and some of their colleagues at the Queen Street Mental Health Centre in Toronto. This challenge resulted in a policy that restraints of any type would no longer be used. Shortly thereafter, they surveyed 370 Canadian facilities that had psychiatric or psychogeriatric units. Of those responding, 67.4% restrained restless and confused patients and 48.8% restrained elderly patients considered unsteady in their ability to mobilize. The devices most frequently used were Posey® belts or shirts (51.2%), and straps (46.5%). In 1977, 85% of patients over age 70 in three continuing care institutions in Ontario were restrained. All had bedrails and 92% had seat belts (Cape, Shorrock, Tree, Pablo, Campbell & Seymour, 1977). At that time, facilities generally had no policy nor guidelines governing the use of restraints, alternatives were not considered, and the prevailing practices in Canada in the 1970s are described as being merely modified versions of "gadgets" used in Tuke's time in 1882. In 1980 the elderly in Canada were still found to be restrained 10 times more often than those in Britain (Bogaert, 1980).

Restraining practices and patterns were assessed in a large acute care hospital in Alberta for the purpose of estimating the cost of making changes in restraint policies

(Nordstrom et al., (1983). 11.8% of patients were restrained, the majority being in long-term care areas. Two-limb restraints and locked Posey® belts were most often used in acute care and critical care but restraint jackets were the restraint of choice to "secure" patients in beds or wheelchairs in the long-term care units. Roberge and Beauséjour (1988) found some type of restraining device used on 31% of nursing homes residents and 88% of patients in central Québec chronic care facilities. Of these, 13% and 40% respectively were restraints other than siderails, which in some study sites were obligatory. In the chronic care facilities, 14% of the residents were restrained continuously, as were 6% of the nursing home residents. Most recently, 26% of residents in a Victoria, BC facility were restrained, with wheelchair restraints described as being applied indiscriminately on admission and indefinitely following an incident (Harry & Kopetsky, 1991).

There is every indication that restraints use has been similar in the USA. In a covert prospective study conducted over a period of 15 weeks, Frengley and Mion (1986) observed an overall restraint use of 7.4% on acute medical units in a 750 bed public teaching hospital in Cleveland. Of these, 20% had multiple restraints. Because patients were not observed during the evening and night, times when restraint use may be increased (Macpherson et al., 1990; Schilder, 1987) and staff ratios are commonly lower, a factor possibly associated with increased restraint use (Cubbin, 1970; Schilder, 1987), these results may be conservative.

In a Denver veterans' hospital, 17% of new acute medical and surgical admissions 70 years of age or older were restrained (Robbins et al.,1987). Wrist restraints were used in 72% of the instances, with three or more restraints used 62% of the time. The higher incidence could be attributed to the covert study design in addition to the broader definition of a restraint. Because the policy and practice was to keep siderails raised, they were excluded, but all other commercial and non-commercial restraining devices including geri-chairs were included.

Patients undergoing active rehabilitation are also restrained and for longer lengths of time than patients in acute medical wards, regardless of length of hospital stay (Mion, Frengley, Jakovcic & Marino, 1989). Rehabilitation patients were restrained from 1 to 85 days, with an average of 29.8 days as compared to 4.5 days with a range of 1 to 18 days for the patients on the medical ward. However, multiple restraints and wrist restraints were used less frequently with rehabilitation patients, with most (92%) being restrained with waist restraints.

Because restraint use has been shown to be more prevalent with increasing age, it is not surprising that the prevalence of use in nursing homes is higher than in hospitals.

In the 1970s, a survey of 500 randomly selected nursing homes resulted in 183 responses (Farnworth, 1973). All but two nursing homes reported using restraints. In upstate New York, Zimmer, Watson and Treat (1984) report that 30% of all residents in skilled nursing facilities were restrained. The practice of restraining the elderly residing in institutions continues. Prior to the introduction of a restraint reduction program in four nursing homes and five continuing care retirement communities, 25% to 60% of residents were restrained over a 24 hour period (Goldman et al. 1991). Similarly, 59% of residents were restrained at the onset of a recent study in skilled nursing facilities(Tinetti, Liu, Marottoli & Ginter, 1991). From two weeks prior to collecting baseline data to the end of the study a year later, 66% of residents were restrained at some time, with most (67%) being restrained in wheelchairs. Waist restraint was used most frequently (39%) followed by a combination of waist and chest/vest restraints (26%) and gerichairs with trays (14%). Most recently, in eight nursing homes studied, 48% of residents had restraints applied in the month following admission and 29.3% were restrained 80-100% of the days (Burton, German, Rovner & Brant, 1992).

In these studies the operational definition of a restraint was not consistent, that is, siderails, belts, seatbelts, geri-chairs and non-commercial restraints, devices commonly used with elderly patients, were included or excluded. It therefore is not prudent to make comparisons of findings but only to recognize that the use of restraints is not limited to isolated incidents. It also is recognized that these reports have potential sources of invalidity related to sampling methods and study design. Nevertheless, it is evident that restraints have been used widely and their use continues to warrant attention. An encouraging report states that restraint use is less prevalent since the full implementation of OBRA in 1990. Results of a survey of 481 not-for-profit nursing homes, conducted by the American Association of Homes for the Aging, indicate a 47% reduction in use since 1989 (Mion and Mercurio, 1992).

The Decision to Use Restraints

Because many restraining orders are written "as necessary" (prn), physicians have effectively transferred the decision making and responsibility to nurses, and many nurses readily choose to use restraints rather than to implement alternative measures (Robbins, 1986; Yarmesch & Sheafor, 1984). When conducting an ethnographic study on a medical ward, Schilder (1987) found that the request for restraint was frequently initiated by an orderly or aide and the request went through the hierarchy to the nurse-in-charge. All of the nurses agreed that a physician's order was required for legal purposes but that it was the nurse who made the decision to apply restraints. Strumpf and Evans

(1988) found that the decision was made according to personal discretion rather than on patient assessment. In one study nurses made the decision 76% of the time,most often during the evening shift (52%; $P < .05$), and a physician's order was obtained only 28% of the time (Macpherson et al., 1990). Only once is there reference to interdisciplinary decision making, and even then the decision was still made 69% of the time by nurses alone (Varone, Tappen, Dixon-Antonio, Gonzales & Glussman, 1992).

The decision to remove restraints is also made by nurses. However, once in place, Schilder (1987) observed that nurses were reluctant to take the initiative to discontinue their use. Either they did not know the patient well enough to make a decision, or they believed it would be safer to leave them on than to risk making a "wrong decision", probably not considering the decision to continue their use was possiblly a "wrong decision". Although policies require that restraints are routinely released, "difficult" residents are at risk of being restrained for longer periods of time. In one study, staff's perceptions of residents' verbal and physical aggressiveness and unpleasantness were predictive of how long they continuously remained restrained (Schnelle, Simmons & Orly, 1992). For some staff, even pending death has proved not to be sufficient reason to remove restraints and many die with restraints in place (Robbins et al., 1986).

Rationale for Justifying Restraining Practices

The most commonly cited reasons for applying restraints are patient safety, maintenance of body alignment or balance, agitation and hyperactivity, prevention of wandering, and protection of treatment devices, safety, altered mentation and keeping patients in bed or in chairs (Mitchell-Pedersen, Edmund, Fingerote & Powell, 1986; Masters & Marks, 1989; Mion et al., 1989; Schilder, 1987; Varone et al., 1992; Yarmesh & Sheafor, 1984). Chart reviews, interviews and questionnaires were used to explore the subjective impact of restraints on 20 elderly medical patients and their primary nurses' beliefs about restraints (Strumpf & Evans, 1988). Few patients suggested safety, fall prevention or impaired mental status as reasons for being restrained and none offered facilitation of treatments as justification for restraints. Although the nurses strongly supported these reasons as justification for using restraints, they perceived it to be a "caring act". Although restraints were used to prevent falls, three of the subjects fell while restrained, a factor observed in other studies (Tinetti et al., 1991). These findings reinforce the argument that believing restraints are effective as a fall prevention strategy is misguided thinking and based on fallacy (Blakeslee, 1988; Evans & Strumpf, 1990; Rubenstein et al., 1983; Tinetti, Liu & Ginter, 1992).

Macpherson et al. (1990) surveyed primary care nurses and patients' physicians regarding the process, timing of restraint application, and reasons for restraining patients. Again, preventing falls from bed and chairs, wandering, and protecting treatment devices were most common. No statistical difference was demonstrated between physicians' and nurses' responses to the reason for restraint, however, physicians believed more often than nurses that restraint was not the best option ($P < 0.02$). It is rarely suggested in the literature that restraints are frequently applied for staff convenience. However, restraints were used to protect medical devices. Nurses justified the use of restraints to protect Foley® catheters used to prevent incontinence, the replacement of which was a nursing responsibility, whereas physicians were more interested in protecting nasogastric tubes which they replaced when dislodged.

Factors Within the Work Environment

Brower (1991) describes the social organization within the workplace as influencing nursing behaviours. Formal and informal rules which operate in the work situation, and the extent that staff feel they have to abide by the rules, affect behaviour regardless of attitudes (Ingham & Fielding, 1985). Schilder (1987) observed this to be true.

> The practice of using restraints thus can be seen as a function of the setting, the policy, and the staff's appraisal and organization of their work and assessment of their patients. The restraint . . . can be taken as a situational decision . . . and not necessarily as a clinical decision. The effort to maintain the institutional order – that is, the workflow and routine – combined with a general damage control to avoid litigation, investigation, blame and, most of all, more work, conditions the use of and the types of restraint. (p. 139)

Although clinical indications may have been documented, an evening nurse stated, "The night staff give us a hard time if we don't put an old frail patient into a Posey jacket before they come on duty, even if I don't think it is indicated" (p. 137).

Schilder also found the amount of work staff had to do rather than the *number* of staff was a determinant in how long alternative methods could be used, therefore when restraints were applied. The belief that caring for the restrained patient requires less time has not been demonstrated. Morse and McHutchion (1991) found that during the two week period of nonrestraint, nurse-patient interactions were increased but nursing care time decreased. Although surveillance of the wanderer and provision of assistance for frail elderly residents may be perceived as time consuming, if existing restraint policies are honored, making the required safety checks and providing exercise are at least equally time consuming.

Institutional policies and degree of support for using or not using restraints also affect restraint use. Routine use of siderails is mandated in some institutions, particularly for the elderly (Folman & Wilson, 1989; Robbins et al., 1987; Rubenstein, Miller, Postel & Evans, 1983). It also has been shown that where there is active administrative support to reduce the use of restraints, staff are more likely to try alternatives (Mitchell-Pedersen et al., 1986; Strumpf, Evans, Wagner & Patterson, 1992). Nurses' concern and anxiety were evident when they learned of a proposed study (McHutchion & Morse, 1989). At the suggestion restraints would be removed, one nurse remarked, "Fine, but not on *my* shift!" When the time came to select the restrained subjects for study, restraints had been removed without incident from 19 of the 22 previously restrained patients. Although administrative support for the study may have been only one contributing factor, the sudden change in practice is an interesting secondary effect of the research.

Nurses' Responses to Using Restraints

Restraining a patient can be a highly emotional experience as indicated from responses of 15 psychiatric nurses following restraining incidents (DiFabio, 1981). Feelings expressed included anxiety, inadequacy, hopelessness, frustration, fear (for self), guilt, concern for self (safety and future patient/nurse relationship) concern for others, envy (of acting out), withdrawal, relief, being overwhelmed, isolation, feeling used or drained, vengeance, repugnance, preoccupation with control, need for nurturance, absurdity, resignation, dissatisfaction, and for some, satisfaction with the outcome. Surprisingly, it has been suggested that in psychiatric settings restraining patients is "a fact of life" (p. 975) and because nurses are "caught in the middle", they require the support of each other and should recognize and accept their reactions as normal. Although this may have been reality in practice at that time, it is disconcerting to read that what Pinel and Tuke considered unacceptable practice almost two centuries ago, continued to be supported so recently in the nursing literature.

Other nurses generally view the use of restraints as a caring act but may have mixed feelings (Strumpf & Evans, 1988): "I'd rather use a restraint than have her fall." "Sometimes it bothers me when the patient can't understand the need for restraint. I wonder if it's really for his own good." (p. 135). Others feel more strongly, describing themselves as feeling like a jailer, guilty or being 'driven crazy' by having to restrain so many patients. Some nurses were better able to cope with their feelings if the patient did not object or agreed to being restrained, or if they could talk to the patient, other nurses or friends about the experience. The nurses were cognizant of

effects of restraining the patients, citing patients' attempts to remove the restraints, and signs of increased anger, combativeness, agitation, resistance and even hallucinations. However, patients' and nurses' perceptions did not often concur, and although patients could offer alternatives to restraints, the nurses suggested none or only a few.

Believing alternatives do not exist could be a way in which nurses cope with regularly restraining patients, particularly over long periods of time (Strumpf & Evans, 1988). This could explain nursing aides' perceptions that they cannot refuse to place residents in restraints, and that although they may not like to use restraints, they generally feel comfortable taking care of restrained patients (Neary et al., 1991). Nursing aides also have been shown to have less understanding of the role restraints play in creating dependency and disabilities and displayed greater concern with jeopardizing patient "safety" if restraints were removed than have licenced nurses (Schirm, Gray & Peoples, 1993).

A "safety first" mentality can make restraints more palatable for staff. Prior to the introduction of a restraint reduction program in 9 nursing homes, half of the staff indicated outward discomfort at using restraints (Goldman et al., 1991). However, almost as many felt little discomfort because they considered restraints to be a necessary safety precaution. The degree of discomfort may not have been great, however, because two thirds of the staff claimed it did not bother them to work in an environment where restraints were used. Few staff (21%) could envision a restraint free environment to be advantageous and only a third of those interviewed supported a no restraint policy.

Patient Characteristics

The type of acute care patients in Schilder's (1987) study most likely to be restrained were those displaying agitated behaviour (38%), for reasons unreported or not assessed, and for attempting to dislodge intravenous lines (36%). They also were likely to be receiving chemical restraints or had impaired short-term memories, language barriers (48%), history of falling, muscular weakness, or had "at risk" scores on the fall-prevention program guide. Disruptive behaviour, nursing assessment of risk of falling and cognitive impairment have also been shown to be significantly related to restraint use, regardless of age (Berland, Wachtel, Kiel, O'Sullivan & Phillips, 1990). Similiarly, in long-term care, the use of restraints is often routine for the elderly who wander, display combative behaviour or are at considerable risk for sustaining a fall related injury (Williams et al., 1979; Robbins et al., 1987; Mion et al., 1989; Applebaum & Roth, 1984; Morrison, Crinklaw-Wiancko, King, Thibeault, & Wells,

1987), regardless of the potential hazards (Dube & Mitchell, 1986; Katz, 1987; DiMaio, Dana & Bux, 1986). The elderly with multiple chronic diseases or cognitive impairment are particularly at risk and more likely to be restrained (Lofgren et al., 1989), and restraint use has been shown to be related to residents' activities of daily living, adaptation, and social support ($P < .0001$) (Burton et al., 1992). Similarly, Mion et al. (1989) found that regardless of age, impaired cognition and physical functioning were predictive of restraint use, factors which often influence judgment or are manifested in behavioural disorders. Paradoxically, nursing home residents have been shown to become more agitated when restrained (Werner, Cohen-Mansfield, Braun & Marx, 1989), yet agitation is commonly considered to be justification for using restraints.

Patients' unmet expectations can contribute to behaviour resulting in being restrained, particularly if they are seen as being confused or "difficult" (English & Morse, 1988). Although restlessness, agitation and interfering with treatments may be the most frequently documented indicators for restraining patients, Robbins et al. (1987) found cognitive impairment to be the only independent predictor of restraints and always present when any other variable, such as ambulatory status, was significant. This may indicate that if patients are not perceived to be confused, they can walk, with or without an aid, or be bedridden, without fear of being restrained.

Consequences of Being Restrained

Although a body of knowledge on adverse physiological, psychological and sociological effects of restraint and immobility exists, many nurses continue to believe restraints contribute to patient safety and seem unaware of their iatrogenic effects. Peripheral edema, respiratory complications, difficulties with digestion and constipation, anorexia, contractures, muscular weakness, osteoporosis, nosocomial infections, metabolic imbalances, orthostatic hypotension, renal calculi, decubitus ulcers and states of confusion are but a few of the detrimental physical effects (Lofgren et al., 1989; Miller, 1975; Mobily & Kelley, 1991; Olson, 1967; Oster, 1976; Seliksen et al., 1988). There is also recent empirical evidence that restraint use may contribute to cognitive decline in nursing home residents, particularly in those who have moderate to no impairment at the time of admission (Burton et al., 1992).

For the elderly, who may accept that some degree of chronicity accompanies the aging process, perhaps of more importance is the disequilibrium in the psychosocial domain that immobility creates. In the western culture, where independence, activity, usefulness and the ability to work are prized, the loss of functional ability and personal control are perceived negatively by the individual and by society. The loss of these

functions results in a loss of status (Bernal, 1984) and a person's ego identity is shattered when the ability to make free choices is lost (Olson & Wade, 1967).

Occupational therapy theory supports the belief that meaningful tasks and stimuli encourage adaptive behaviour in the patient population (Parent, 1978). Immobility reduces interaction with the environment which results in sensory and perceptual deprivation, and in social isolation which is accompanied by a host of undesirable symptoms (Bernal, 1984; Folmar & Wilson, 1989; Kellerman & Seigel, 1977; Olson et al., 1967). Monotony and boredom distort the sense of time and space, social relations and self perception (Bernal, 1984). Anxiety, agitation and tension increase, and the ability to concentrate is reduced. Hallucinations are not uncommon.

As Bernal (1984) emphasizes, "Immobilization and its meaning should not be regarded solely as a physiological event . . . to move has a crucial role to play in passing time, pursuing activities, finding interesting sensory information and maintaining one's concept of self" (p. 86). Decreased control and increased dependency force the elderly to become compliant and accept what the staff have to offer (Kayser-Jones, 1979). They develop symptoms of learned helplessness and feel they are being infantalized (Slimmer et al., 1987). Behaviour becomes regressed (Cohen-Mansfield, 1986), and behavioural changes resulting from long-term restraint are not readily reversed when restraints are removed (McHutchion & Morse, 1989). Patients who have been restrained describe experiencing anger, demoralization, fear, discomfort and humiliation, and respond with resistance, compliance, resignation or denial (Mion et al., 1989; Schilder, 1987; Strumpf & Evans, 1988).

In addition to jeopardizing rehabilitation or the maintenance of a degree of independence in the elderly, other serious consequences include the risk of injury to the patient with inherent legal ramifications for staff. In addition to being at greater risk for falls if restrained (Tinetti et al., 1992), the risk of death is real. In the USA and Canada there have been 35 reported deaths directly attributed to restraints between 1980 and 1987, a statistic judged in the literature to be low, two of which were fire-related resulting from patients' desperate attempts to burn off restraint vests (Fried, 1987).

Legal-Ethical Issues

Despite the lack of empirical evidence that restraints are effective in reducing serious injuries, nurses commonly justify their use as a protective measure against lawsuits and malpractice. Such thinking will be reflected in nurses' decisions in regard to establishing priorities. Wiener and Kayser-Jones (1989) describe energy expended by nursing home staff in "defensive work" which is directed to protect the institution or

staff, rather than to provide quality care. However, the risk of serious injury from being restrained is as great or greater than the risk of serious injury when alternatives to restraints are used (Blakeslee, 1988; Kulikowski, 1979; Mitchell-Pedersen et al., 1986; 1989; Snyder, Rupprecht, Pyrek, Brekhus & Moss, 1978; Tinetti et al., 1992; Yarmesch & Sheafor, 1984).

Although nurses have a responsibility to protect patients from harm, to be convicted of negligence requires proof a "failure to measure up to the average, reasonable and prudent standard in the circumstances resulting in reasonably foreseeable harm" (Rozovsky & Rozovsky, 1983). In defense of non-restraint, it could be argued that a reluctance to apply restraints is evidence of protecting the patient from harm. A jury in Texas recently awarded $39.4 million to the family of an 84 year-old nursing home resident strangled by a restraining device ("Legal Issues," 1990). In Canada, there is no evidence in the literature of a successful litigation related to strangulation deaths directly attributed to restraining practices. However, neither has there been a successful lawsuit when restraints were not used (Blakeslee, 1988; DiMaio et al., 1986; Greenlaw, 1982; Katz, 1987; Mitchell-Pedersen et al., 1986; Stotland, Weber, & Suleiman, 1988; Williams, 1989a). Although the Health Protection Branch of the Department of National Health and Welfare (1982) issued a Medical Devices Alert warning of risks involved when using restraints and safety belts, other deaths have followed (David, 1988; Williams, 1989a) and restraining measures continue to be used.

As Greenlaw (1982) states, existing hospital policy is not conclusive in issues of negligence, but it does ". . . provide evidence of standard of care by which the defendant's conduct should be measured" (p.126). Although hospitals in the USA have been held responsible for patient injuries, nurses can reduce their liability if policy, patient's condition and nurses' judgments are adequately documented. In addition, the notion that restraints detract from quality of life and therefore are undesirable has been upheld by US courts (Evans & Strumpf, 1989).

The legal and ethical issues surrounding patients' rights, respect for patients' dignity and autonomy, and the health care provider's responsibility to obtain informed consent are important factors when considering the decision to restrain. A paternalistic medical model, based on the intention and desire to help and to minimize possible harm, is in conflict with the civil liberties model which is grounded in an individual's right to freedom and to make choices. When staff or family ignore the elderly person's wishes, even if they are periodically confused, disoriented or suffer memory lapses, thus depriving them of their right to autonomy, their civil liberties are usurped (Schafer,

1985). The degree of risk to self or to others tends not to be carefully weighed before coercive action, commonly disguised as a medical necessity, is taken.

Factors which staff may not consider but which put them at considerable risk when restraints are employed are the inconsistent and unreliable documentation regarding restraint use and neglecting to routinely inform family members (Frengley & Mion, 1986; Macpherson et al., 1990; Robbins et al., 1987). Such actions suggest that restraining patients is considered routine, not an active intervention taken seriously, and is not perceived to have risks. They also make one question whether alternatives were considered, and in particular whether families were given the option to stay with the patient.

As previously stated, no institution in Canada has ever been successfully sued for the non-use of restraints. Rather, the potential for liability for false imprisonment arises when a patient objects to their use, or when injury results from improper application of restraints (Katz, 1987; Mitchell-Pedersen et al., 1985; 1986; Schwartz, McJannet, Weinberg, Riley, 1981). In the USA today it is considered highly unlikely that courts will impose liability on facilities complying with recent legislation and regulatory requirements which limit restraint use ("Restraint Reduction," 1991).

Alternatives to Restraints

Although institutional policies and the psychiatric literature provide guidelines intended to assure the "appropriate" use of restraints, there is a paucity of research on satisfactory alternatives which are necessary if caregivers are going to seriously consider the option of not restraining (Mion & Mercurio, 1992). As recently as 1988, a proposed "innovative" alternative to using four-limb restraints was the use of a geri-chair, twisted sheet, Posey® vest and padded leather cuffs in combination (Strome, 1988). More appropriate alternatives discussed in the literature are companions and supervision (Brannon, 1988; McHutchion & Morse, 1989), reassessment of treatment routines and medications, (Masters & Marks, 1990; Mitchell-Pedersen et al., 1986), manipulation of the environment, including improved lighting, mattresses on the floor, bedrails up, bedrails down, door alarms and locked units (Sheridan, 1989), bed-alarms, well designed furniture, and individually designed comfort support pillows (Kallman, Denine-Flynn & Blackburn, 1992). Psychosocial interventions, such as redirecting disturbed residents, reality orientation or recognizing agenda behaviour (Rader, Doan & Schwab, 1985), and physical, occupational and recreational therapy are suggested as well as the need for staff education and administrative support for a reduction in restraint use.

Williams (1989b) indicates that resourceful alternatives to restraints are used in Scotland. She also reports on casual observations made during visits to nursing homes in Sweden and Denmark, countries where the use of physical and chemical restraints in nursing homes are reported to be virtually non-existent. It is her impression that their success lies in treating the residents as responsible adults and responding to their individual needs, rather than to perceive individualized care as being incompatible with efficiency and as an interruption in a task-oriented schedule. The physical environment, low electric beds, attention to comfort and appearance, individualized activities and seating, opportunities for choice, encouraging self-care, and responding appropriately to residents with dementias were all factors seen to contribute to the humanistic approach in providing care. The suggestion was made that in interdisciplinary conferences, the purpose of which is to develop individualized care plans, the information gleaned may be interesting but not utilized other than that the "wheels of the institution grind all into their set policies, procedures and routines" (p. 9).

Restraint Reduction Programs

A moving force in restraint reduction in long term care facilities in the USA has been the Kendal Corporation, a not-for-profit corporation whose facilities have been restraint free for 18 years (Goldman et al., 1991). Their restraint reduction program presented widely throughout the USA is outlined in a comprehensive resource manual (Untie the Elderly®, 1990). The program is guided by a philosophy which honors and upholds the elderly person's basic human rights. Basic to their program and others evolved from it, is the dependency on administrative commitment to a no restraint policy, education of all staff as well as families, physicians and residents, an interdisciplinary approach to care, and individualized careplans. Institutionalized aspects of care are de-emphasized to reduce resident stress, and interventions are highly individualized, with all staff, not just nursing staff, taking responsibility for implementation and ongoing monitoring. Likewise, all staff receive interdisciplinary training on a broad range of topics related to the older person, with particular attention to handing emotional problems and the development of close nurse-resident-family relationships.

Strumpf et al. (1992) developed, pilot tested and refined a program with the added expertise of an education design expert and gerontologic nurse clinician. The principles of adult education and change phenomenon were incorporated into 10 educational sessions. From the pilot phase they learned the consequences of staff's perceptions of questionable support from key administrative personnel. Providing an opportunity for

education alone proved insufficient. The success of a well developed program was judged to be dependent on stable and committed leadership, experiential learning, the availability of professional staff who are good role models, and respect for and recognition of the dignity of the nurses' aides and the work they do on a daily basis.

Oregon implemented a three year state-wide demonstration project, *Strategies for Restraint Reduction in Oregon's Long-Term Care Facilities* (Rader, Semradek, McKenzie & McMahon, 1992). It differs in that it will result in a model intended to be useful for other state-wide changes planned to improve practice in long term care facilities. The focus is on cooperation among care providers, consumers and regulators, both at state and local levels, with monitoring and changes in practice being a joint responsibility. As a result, the restraint reduction program has a multilevel approach, changes will become a part of the larger long-term care system, and feasibility issues and intervention costs have influenced its design.

The program is overseen by a Coordinating Committee comprised of representatives from all stakeholders. Liaison with interested groups, such as the state ombudsman's office, the rehabilitation professions, Alzheimer's Disease associations and various geriatric experts is through an Advisory Committee. A project director, who is a clinical expert on restraint reduction, chairs the two committees and consults with facility staff.

The educational component of the program in Year 1 offered at four regional sites involved a mix of nursing home staff, state surveyors, other regulatory staff and parties concerned with long term care. A resource manual designed to grow and change with the project was developed and a train-the-trainer approach was used. A formal consultative and support component was considered essential to supplement workshops and written material. It operates at the local level within facilities, among facilities within regions, and at the state level, builds on available resources, with expert consultation utilized for the most complex residents and situations. Within facilities consultation occurs across shifts, units, disciplines, and with residents and families. "Coaching nursing homes" act as regional role models to assist others. The Coordinating Committee is addressing issues as they arise and recommending action to appropriate authorities. To date, what constitutes a restraint, informed consent appropriate documentation, and other issues involved with avoiding future citations have been addressed. The emphasis on self-regulation in the model is considered essential to quality care.

Outcomes of Restraint Reduction Programs

Long standing nursing practices are not readily subject to change. However, with effort and good planning nurses' fears can be allayed and restraint reduction can be a positive experience, as demonstrated by Goldman et al. (1991). Only 3% of an initial 97% of staff continued to express fears or concerns related to falls, injuries, work, lawsuits and conflict. Over three quarters preferred the new environment. Encouragingly, residents and staff were seen to have benefitted; respondents reported residents to be happier, more social, cooperative and mobile, and staff to be more aware, positive and working as a team. In addition, fears of possible increases in costs, staffing needs, or serious injuries from falls proved unfounded.

Bloom and Braun (1991) report a reduction from 45% to 6% restraint use after one year, with improved sleep patterns and fewer decubitus ulcers. Powell et al. (1989) reduced restraint use from 52 to 0.3 restraints per 1000 patient days, although geri-chairs were not considered restraints. Restraint use is reported to have been reduced from 25% to less than 5% by Rader and Donius (1991). In two nursing homes Rose (1992) reports reductions from 39% and 43% to 3% and 7% respectively. For those who reported fall rates and fall injury rates, little differences existed before and after restraint reduction was introduced.

Implications for Nursing

Although nursing standards, institutional policies, and provincial and federal guidelines may address the necessity of limiting restraint use to the short term and "when necessary", in practice their widespread use persists and is virtually unchallenged in Canada. The use of restraints is generally not perceived to be an active intervention requiring serious consideration and having serious consequences. Although their use may be short term in acute care and psychiatric settings, their use in caring for the elderly with chronic debilitating conditions continues for indefinite lengths of time without question. Restraint policies should require that serious, systematic and documented attempts at using alternatives are exhausted before a decision to use restraints is made. Otherwise, restraint use will continue to be widespread and accepted as a routine part of care and not as an active nursing intervention requiring accountability.

As discussed, many fears can be addressed if appropriate action is planned. However, those who are knowledgeable about restraints have their own concerns related to the large proportion of nurses who have an inadequate knowledge about restraints, alternatives, and associated risks or negative outcomes (Kanski et al., 1990;

Stilwell, 1991). In one study, nurses had never received any instruction or only one hour or less of instruction related specifically to the use of restraints since commencing their nursing education (Stilwell, 1991). The age of the sample (61% ≥50 years) may have been a factor, in that instruction on restraint use has been included in curricula more commonly in the last decade. Only 45% of respondents reported using alternatives to restraints in their work setting. Of those listed (N = 67), half were chemical restraints, and few nurses agreed that death or major injury were risk factors.

Such findings indicate a need for instruction regarding restraints. Because almost half of Stilwell's (1991) sample had a minimum of a baccalaureate degree, it is obvious that level of nursing education is not indicative of adequate knowledge. In addition to a need for information directly related to restraints, there is a need for continuing education which focuses on assessment skills, the needs of the aging population from their perspective, and concerns for independence and right to self-determination. Of equal importance is knowledge and skill in effecting an individualized approach to care which is effective and useful in practice rather than being seen as meeting regulatory requirements or being a theoretical exercise.

Quality care in the elderly is closely bound to care which enhances quality of life, functional maintenance, comfort and dignity (National Citizens' Coalition for Nursing Home Reform, 1985). In addition, the value of enhancing health promotion strategies, which signify a movement toward a higher level of existence through increased personal control and choice, is being recognized as an important factor for the health of people of all ages. Those who care for the increasing number of elderly must realize the implications and effects of enforced immobility, and that the elderly or their legal representative be aware of residents' rights to make choices regarding risks.

In a society where there will be increasing numbers of frail elderly (Thomasma, 1985; Wexler, 1987), situations will become common where residents are judged to be unsafe, uncooperative or noncompliant (Evans & Strumpf, 1989b). It is essential that care decisions are based on sound research, consistent with professional practice and standards of quality care. The implications and ethics of restraining practices in long term care institutions in Canada also need to be questioned. Because restraints are a matter of control rather than safety, it is also time to re-examine the role and function of the various disciplines working in long term care, and particularly their relationships with residents and families. The need for a shift in philosophy of care, and strong commitment of those responsible for mandating policy and practice are necessary in order that direction for practical and viable alternatives can be offered by practitioners and change in practice realized.

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APPENDIX B

Methods

Research Design

A survey design using a self-administered questionnaire was used with an opportunity to contribute qualitative data in the form of comments. The study was a partial replication of the 1989 study conducted by Janelli, Kanski, Scherer, Neary and Morth (1992), State University of New York at Buffalo.

Sample

A questionnaire was administered to a convenience sample of volunteer participants who worked as nursing staff in one of three long term care facilities. Participants were from a population of 206 nursing staff which included registered nurses (RNs), licenced practical nurses (LPNs), personal care aides (PCAs) and nursing attendants (NAs). All nursing staff who worked full time or part time ($\geq .4$ FTE) on a nursing unit were eligible to participate in the study. The facilities were a part of a single not-for-profit organization and had a total capacity of approximately 500 residents. Two study sites were located in a large metropolitan area in western Canada and the third was located in a nearby rural community.

All nurses who met the study criteria were invited to participate. Assurance was given that participation was voluntary, that no consequences would result from participation or non-participation, and that complete confidentiality and anonymity of responses would be maintained. Consent to participate in the study was implied by returning a completed questionnaire.

Prior to the conduct of the study, ethical clearance was obtained from the Ethics Review Committee of the Faculty of Nursing, University of Alberta, and from the participating agency. Permission to access nursing staff was obtained from the Administrators at the three study sites and was confirmed with the Directors of Nursing.

Materials

A 46 item questionnaire, the *Restraint Study Questionnaire*, was used with the permission of the developers. Permission was also obtained to substitute the word *patient* with *resident* in questionnaire items, to better reflect the local vernacular. The questionnaire consisted of three sections, (a) knowledge about restraints, (b) nursing practice issues, and (c) attitudes regarding restraint use. An opportunity to make

additional comments following each of the three sections and at the end of the questionnaire (items 19, 37, 55, 73) was provided by the researcher.

In addition to the original questionnaire, six items (49-54) were developed in response to problems with the instrument experienced by the developers (personal communication, Scherer, August 1991) and from the literature. Sixteen items (57-72) pertaining to demographics were also included for the purpose of describing the sample. Finally, to develop a greater understanding of what respondents perceived to be a *restraint*, a factor not discussed in the literature, respondents were asked to list all restraints of which they had knowledge. The reading level of the questionnaire was ascertained to be grade 5 (Flesch-Kincaid) using *Grammatic™ Mac 2.0* (Reference Software International, 1990). A copy of the questionnaire is found in Appendix C.

In order to view the data in context of the setting, information on written and unwritten policies regarding restraints was obtained with permission of the Administrators. Similarly, data regarding the availability and content of existing or past staff educational opportunities regarding restraints was obtained from the staff development coordinators. They also provided information regarding potential participants' ability to complete the questionnaire considering that for many English was a second language.

Reliability and Validity

Reliability of the questionnaire was not assessed prior to the onset of the study because the questionnaire was not intended to be used as a repeated measure. Changes in nurses' knowledge, practice, or attitudes about restraints occurring over time would not necessarily relate to the tool's reliability. Although Scherer reports that the *Restraint Study Questionnaire* has been used elsewhere (personal communication, August, 1991), the only data available on reliability testing is that of the developers. The reliability coefficient for the attitude scale as measured by Cronbach alpha was reported to be .67 (Scherer et al., 1991) and .80 for the nurse practice scale (Kanski et al., 1990). It is not reported for the knowledge scale.

It was learned from personal communication with Scherer (August, 1991), that the developers questioned the validity of some items. Inconsistency in the meaning and interpretation of the word "comfortable" (item 48) was found. In addition, it was suggested that item 44 (which relates to the nursing home's legal responsibility to use restraints for safety) is knowledge based rather than an attitude. Although it is not acceptable to alter the wording of items in a replication study, Scherer's comments were

considered to be useful during a pre-test of the questionnaire and for the purposes of interpreting the data at the time of analysis.

Three geriatric nurse specialists, who were RNs with at least 5 years in geriatric nursing and who had experience with research, reviewed the questionnaire for content and face validity. In addition, the pre-test of the questionnaire was conducted using a convenience sample (N = 9) of NAs, PCAs, LPNs and RNs who worked in long-term care but not in the research setting.

Procedure

Following receipt of the appropriate ethical approval, copies of the proposed study were distributed to the Administrators and Directors of Nursing and consent was obtained to access the nursing staff. Data collection was conducted between mid June and mid August, 1992, beginning with the rural facility.

The investigator met individually with the Directors of Nursing to determine the most appropriate way to introduce the study to the nursing staff and to distribute the questionnaires in the three research settings. The study was first explained and discussed with the individual unit supervisors to solicit their support, and a letter of introduction briefly describing the study and its purpose was posted on each unit (Appendix D). Permission was obtained from the Directors of Nursing and unit supervisors to permit subjects to complete the questionnaires during working hours as time permitted.

Names of nursing staff meeting the criteria for participation were obtained through the Directors of Nursing. Questionnaires, to which letters of explanation were attached (Appendix E), were placed in unsealed blank envelopes and inserted inside larger envelopes on which prospective subjects' names were written. The investigator arranged to visit each unit and every shift in order to explain the study to as many of the potential participants as possible. The addressed envelopes were distributed to those meeting the study criteria who were present when the study was introduced to the staff, usually at the change of shifts. A sealed box was left on each unit for the deposit of completed questionnaires. The units were visited by the investigator approximately every two days to pick up the completed questionnaires and to be available to provide assistance or answer any questions. The questionnaires for participants on vacation were left on the appropriate unit in a location designated by the unit supervisor. Follow-up was conducted to ensure those returning from vacation had received the questionnaire and to answer any questions they might have regarding the questionnaire or conduct of the study.

There were no marks or codes on the questionnaires to identify the respondents or units. Although the questionnaires from the three study sites were initially kept separate in order to calculate response rates, when data collection was terminated, they were pooled for analysis.

APPENDIX C

RESTRAINT STUDY QUESTIONNAIRE[1]

Thank you for deciding to complete the questionnaire. There are 3 sections and each is followed with space for you to add any comments you would like to make. I welcome your comments as the views of each person who answers the questionnaire are very important. Please realize that your views may not be the same as those of other staff. Getting as many different viewpoints as possible will help me better understand how nurses feel about restraints.

SECTION I: Knowledge about Physical Restraints

INSTRUCTIONS: Please **circle one** number in the column to the right to indicate whether you believe the statement is **true**, **false**, or you are **not sure** whether it is true or false. **Your comments are welcomed at the end of the section.** [Numbers in the brackets on the far right, eg. (1) are for the researcher's use only].

	True	False	Not Sure
1. Physical restraints and safety vests are garments designed to prevent injury.	1	2	3
2. A restraint is legal only if it's necessary to protect the resident or others from harm.	1	2	3
3. Restraints should be used when you cannot watch the resident closely.	1	2	3
4. Residents are allowed to refuse to be placed in a restraint.	1	2	3
5. A physical restraint (safety vests, garments) requires a doctor's order.	1	2	3
6. Confusion and disorientation is the major reason for using a restraint.	1	2	3
7. A restraint should be released every 2 hours, if the resident is awake.	1	2	3
8. Restraints should be put on snugly so that there is no space between the restraint and the resident's skin.	1	2	3
9. A resident should never be restrained while lying flat in bed because of the danger of choking.	1	2	3
10. When a resident is restrained, skin can break down or restlessness can increase.	1	2	3

[1]Used with the permission of Y.K. Scherer, State University of New York at Buffalo School of Nursing.

	True	False	Not Sure
11 When a resident is restrained in bed, the restraint should **not** be attached to the side rail.	1	2	3
12. Sheet restraints may be necessary at times.	1	2	3
13. You can be charged with assault if you apply restraints when they are not needed.	1	2	3
14. On every shift a record should be kept on residents in restraints.	1	2	3
15. A physician's order to restrain a resident must be specific regarding the purpose, type of restraint used, and length of time it may stay in place.	1	2	3
16. In an emergency you can legally restrain a resident without a doctor's order.	1	2	3
17. Good alternatives to restraints do not exist.	1	2	3
18. Deaths have been linked to the use of vest restraints.	1	2	3

19. **Comments on Section I**

_____

_____

_____

SECTION II: Nursing Practice Issues

INSTRUCTIONS: Please circle **one** number to indicate what you actually do when caring for residents in restraints. **Your comments are welcomed at the end of the section.**

1 = ALWAYS; 2 = SOMETIMES 3 = NEVER

	Always	Some-times	Never
20. When a resident has to be restrained, I put on the restraint.	1	2	3
21. When a resident has to be restrained, I direct other members of the nursing staff to put on the restraint.	1	2	3
22. I try alternative nursing measures before the resident is restrained.	1	2	3
23. Before I restrain a resident I find out the reason for the restraint.	1	2	3

	Always	Some-times	Never
24. When I feel that the resident does not need to be restrained, I make this suggestion to the person in charge or the doctor.	1	2	3
25. I answer the call light or calls for "help" for the resident who is restrained as soon as possible.	1	2	3
26. I check on residents who are restrained at least every 2 hours to make sure they are okay.	1	2	3
27. When giving personal care (bathing or dressing) to a resident who is restrained, I check the skin for reddened areas or bruises.	1	2	3
28. I tell the resident why the restraint is being applied.	1	2	3
29. I tell the resident when the restraint will be removed.	1	2	3
30. I tell family members/visitors when the restraint will be removed.	1	2	3

FOR STAFF Working as RNs / RPNs & LPNs ONLY (Questions 31-36)

PCAs and NAs please go to question 37

	Always	Some-times	Never
31. When I have directed another staff member to restrain a resident, I check to see that it has been properly applied.	1	2	3
32. I have read the nursing home's policy on the use of restraints.	1	2	3
33. More residents are restrained when we are working "short" than when we have a full staff.	1	2	3
34. In this nursing home most staff members work together to discover ways to control residents' behaviour other than the use of physical restraints.	1	2	3
35. When I need to restrain a resident, a restraint is available on the unit.	1	2	3
36. I would rather sedate residents with a prescriptive medication than physically restrain them.	1	2	3

37. **Comments on Section II**

_____

_____

_____

_____

SECTION III: Attitudes Regarding Use of Restraints

INSTRUCTIONS: Please read the following statements and **CIRCLE** only **ONE** number on the right to indicate how you feel about each statement. **Your comments are welcomed at the end of the section.**

1 = Strongly Agree
2 = Agree
3 = Not Sure
4 = Disagree
5 = Strongly Disagree

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
38. I feel that family members have the right to refuse the use of restraints.	1	2	3	4	5
39. I feel nursing staff have the right to refuse to place residents in restraints.	1	2	3	4	5
40. If I were the resident, I feel I should have the right to refuse/resist when restraints are placed on me.	1	2	3	4	5
41. I believe that restraints are a form of punishing residents.	1	2	3	4	5
42. I feel that the main reason restraints are used is that the nursing home is short staffed.	1	2	3	4	5
43. I feel embarrassed when the family enters the room of a resident who is restrained.	1	2	3	4	5
44. The nursing home is legally responsible to use restraints to keep the resident safe even if it means that the resident loses dignity.	1	2	3	4	5

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
45. It makes me feel badly if the resident gets more upset after restraints are applied.	1	2	3	4	5
46. I feel it is important to let the resident in restraints know that I care about him/her.	1	2	3	4	5
47. It seems that residents become more confused after the restraint has been applied.	1	2	3	4	5
48. In general, I feel comfortable taking care of a restrained resident.	1	2	3	4	5
49. I feel it is rarely necessary to restrain a resident.	1	2	3	4	5
50. I worry that if I don't restrain some residents they will injure themselves if they fall.	1	2	3	4	5
51. I feel I will be blamed if a resident I am caring for falls.	1	2	3	4	5
52. I feel there are many other effective ways to manage residents other than using restraints.	1	2	3	4	5
53. I feel that using restraints is just part of caring for some residents in long-term care.	1	2	3	4	5
54. I feel personally responsible if a resident I am caring for falls.	1	2	3	4	5

55. **Comments on Section III**

_____

_____

_____

56. **Please list as many kinds of restraints as you know about. (Please use other side of page if necessary)**

_____

_____

_____

_____

YOU ARE ALMOST FINISHED. THANK YOU FOR CONTINUING.

PERSONAL INFORMATION: Please **circle** only **one** number next to each answer.

57. Age

Under 20..... 1
20-29.....2
30-39.....3
40-49.....4
50-59.....5
60 or over.....6

58. Sex

Female.....1
Male.....2

59. I work as a

Nursing attendant (NA)..... 1
Personal Care Aide (PCA)..... 2
Licenced Practical Nurse (LPN). 3
RN/RPN..... 4

60. Highest level of nursing education

No formal nursing education..... 1
Personal Care Aide (PCA)..... 2
Licenced Practical Nurse (LPN). 3
BScN/RN/RPN..... 4

61. Year you completed your **highest** level of nursing education **(PCAs, LPNs, BScN/RN/RPNs only)**

Before 1950..... 1
1950-1959..... 2
1960-1969..... 3
1970-1979..... 4
1980-1989..... 5
1990-present..... 6

62. Total years working in nursing

0-5..... 1
6-10..... 2
11-15..... 3
16-20..... 4
21-25..... 5
26-30..... 6
31 and over..... 7

63. Total years working in long-term care

0-5..... 1
6-10..... 2
11-15..... 3
16-20..... 4
21-25..... 5
26-30..... 6
31 and over..... 7

64. Total years working with the elderly

0-5..... 1
6-10..... 2
11-15..... 3
16-20..... 4
21-25..... 5
26-30..... 6
31 and over..... 7

65. Present position

Full-time..... 1
Part-time..... 2

66. Shift worked **most often** (including short shifts)
(Please circle only one)

Days.....1
Evenings.....2
Nights.....3

67. In the past year have you read any brochures, pamphlets, articles or news papers about restraints?	Yes 1	No 2	Not Sure 3
68. In the past year have you attended any inservice programs about restraints?	Yes 1	No 2	Not Sure 3
69. In the past year has your employer provided opportunities for you to learn about residents in restraints?	Yes 1	No 2	Not Sure 3
70. Are you required to attend a yearly mandatory inservice program about restraints?	Yes 1	No 2	Not Sure 3
71. Have you ever had or do you now have any elderly family members in a nursing home?	Yes 1	No 2	Not Sure 3
72. Has any elderly family member ever been restrained?	Yes 1	No 2	Not Sure 3

73. There are many things that affect the way each of us feels about restraints. If there is anything you would like to share with me or any other comments you would like to make please use the following space.

_____

_____

_____

_____

_____

_____

_____

I would like to thank you very much for sharing your views with me and taking the time to assist me by completing this questionnaire. Please seal the questionnaire in the envelope provided which **does not have** your name on it and drop it in the box at the desk.

APPENDIX D

Dear Nursing Staff Members;

I am a graduate student at the University of Alberta and have worked in long term care for several years. When working in long term care I became interested in the use of restraints. To complete my work for a Master of Nursing degree, I wish to learn more about what nurses know and feel about using restraints.

I would like to ask all full time and part-time nursing staff (NAs, PCAs, LPNs, RPNs and BScN/RNs) to take part in a study, *Nurses and Restraint use in Long Term Care*. I have a questionnaire that asks about using restraints and how you feel about them. To do it will take about 20 minutes. The views of each of you are very important to me as you care for the residents. You also know them well and know what is happening on the unit.

I hope you will decide to take part in this study. I want you to know that only myself and my professor will see the completed questionnaires. No one will know who did the them, not even me. Your names will not be on them anywhere. The questionnaires from your nursing home will be put with those from two other nursing homes. This means it will not be possible to tell from which nursing home the information came. Also, no individual information will be given to the nursing home or The Good Samaritan Society.

There may be no direct benefits to you for taking part in this study. But, I hope what I learn may help nurses such as yourself in the future when planning residents' care. There are no risks to you whether you do or do not take part in this study. Although you and the nursing homes can have a summary of the study, it will not be possible to tell who provided the information.

I would be happy to talk to you about the study or answer any questions you might have. Please feel free to call me at 469-0832.

Sincerely,

Pat Donahue

Pat Donahue, RN, BScN, MN Candidate
Faculty of Nursing
University of Alberta
3-120 Clinical Sciences Bldg
Edmonton, AB, T6G 2G3
Phone: 469-0832

Supervisor:
Dana H. Wertenberger, BSN, MSN, PhD
Associate Professor
Faculty of Nursing, University of Alberta
3-120 Clinical Sciences Bldg
Edmonton, AB, T6G 2G3
Phone: 492-8166

APPENDIX E

Dear Nursing Staff Member:

I am a graduate student at the University of Alberta and have worked in long term care for several years. When working in long term care I became interested in the use of restraints. To complete my work for a Master of Nursing degree, I wish to learn more about what nurses know and feel about using restraints.

I would like to ask you to take part in a research study, *Nurses and Restraint Use in Long Term Care*. It is a questionnaire about using restraints and how you feel about them. It will take about 20 minutes to do. Your views are very important to me as you care for the residents. You also know them well and know what is happening on the unit.

I hope you will do the questionnaire because I value what you think and have to say. I want you to know that only myself and my professor will see the questionnaires. No one will know who did them, not even me. Your names will not be on them anywhere. The questionnaires from your nursing home will be put with those from two other nursing homes. This means it will not be possible to tell from which nursing home the information came. Also, The Good Samaritan Society.will not receive any individual information

There are no risks to you. Reports of this study will not have any names nor the names of the nursing homes. It will not be possible to tell who provided the information. The nursing homes will get a summary of the study but not any individual information. If any information from the study is used later for another study, that study will be checked and approved first by a committee. Again, no names would be connected with any of the information.

There may be no direct benefit to you for taking part in this study. But, I hope what I learn may help nurses such as yourself in the future when planning residents' care. It is therefore important to me to have all the questions answered.

If you fill out the questionnaire and return it I will take it that you agree to take part in this study. Please seal the completed questionnaire in the envelope that **DOES NOT** have your name on it. Put the sealed envelope in the box at the nursing desk. If you would like a copy of the study summary, please print your name and address on a separate piece of paper (**not on the questionnaire**). I will be sure to receive it if you put it in the box at the desk. Please **do not put it in the envelope** with the questionnaire.

Thank you very much for helping with this study. Please call me if you have any questions. You may keep this letter in case you want to contact me or my supervisor in the future.

Sincerely,

Pat Donahue

Pat Donahue, RN, BScN, MN Candidate
Faculty of Nursing
University of Alberta
3-120 Clinical Sciences Bldg
Edmonton, AB, T6G 2G3
Phone: 469-0832

Supervisor:
Dana H. Wertenberger, BSN, MSN, PhD
Associate Professor
Faculty of Nursing, University of Alberta
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Phone: 492-8166

APPENDIX F

Letter of Permission to Use *Restraint Study Questionnaire*

UNIVERSITY AT BUFFALO
STATE UNIVERSITY OF NEW YORK

School of Nursing

DATE: August 26, 1991

TO: Pat Donahue

FROM: Yvonne Scherer Yvonne Scherer

Enclosed please find a copy of the Restraint Study Questionnaire. You have our permission to use the tool. We ask that you acknowledge us in any research or publications resulting from the use of this questionnaire.

709 S. K. Tower • Buffalo, New York 14214
(716) 831-2734 • FAX (716) 831-2021

APPENDIX G

University of Alberta — Inter-departmental Correspondence

to: **Pat Donahue**

date: **May 5/92**

our file:

from: **Louise Jensen, RN, PhD**
Acting Chair, Joint Ethics Review Committee

your file:

subject: Proposal Review, "Nurses and Restraint Use in Long Term Care

The members of the Committee reviewed the above proposal and have granted ethical clearance.

We wish you every success with your project.

LJ:bh

Louise Jensen

cc: Dr. Dana Wertenberger
Supervisor, Thesis Committee